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LEADING ARTICLES

BILATERAL DERMOID TUMORS OF THE OVARY.*

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THERE is as yet no satisfactory classification of dermoid tumors, few authors agreeing as to their origin, and the confusion can hardly be made clear until the nature of tumors in general is better understood.

Most authorities divide them into two classes: Dermoids and teratomata.

Martin classifies them as follows: 1. Simple dermoids, a sac lined with a dermal membrane. 2. Complicated dermoid, those containing heterogenous structures, as hair, teeth, bones, etc.

3. Teratomata—a sac containing formed organs, as brain, mammary gland, thyroid gland.

4. Solid Teratomata. Solid tumors containing the same structures as cystic teratomata.

Some authors draw a sharp distinction between teratomata and dermoid cysts.

Waldeyer and Bland Sutton believe that dermoids spring from the graffian follicle, and that the epithelial cells lining it are capable of producing all the elements found in a dermoid cyst.

Teratoma they regard as the product of a suppressed conception.

Olshausen, on the contrary, holds that there is no genetic difference between the two tumors, and regards them as being due to fetal inclusion. Many of the older authors taught a somewhat similar view, namely, that these growths were a "fetus in fetu," and it was once believed that the finding of a dermoid tumor in the ovary of an unmarried woman was an evidence of unchastity. It is probable that old tubal pregnancies which had undergone lithopedian formation and became closely allied to the ovary, were often reported as dermoid tumors.

Bland Sutton has pointed out that in women dermoid tumors have never been found growing from any abdominal viscus except the ovary. Most authors are inclined to accept Conheim's theory as peculiarly adapted to the etiology of dermoid and teratoid tumors. Conheim believed that all tumors were due to the misplacement of embryonic cells during fetal life, and a dermoid of the ovary would, therefore, be an inclusion in the ovary of epiblastic, and sometimes mesoblastic embryonal remains which had taken on increased growth at some subsequent period, usually at puberty, when the activity of the sexual organs is suddenly increased and the organs themselves undergo marked changes.

Bandler gives a more extended theory, as follows: "The pro-nephros, the Wolffian body and the Wolffian duct through their position in the mesoderm and their relation to the normal development of the ovary, their position at the hilum of the ovary, and the extension of the tubules into the vascular layer and their growth through the ovary even up to the surface, and from the fact that their remnants furnish the ciliated growths of the broad ligament and form the cyst-adenomata of the ovary—are capable of carrying with them, mesodermal and ectodermal cells, up to and into the ovary and of forming mesodermal and ectodermal products and structures lined with ciliated epithelium. Cysts of the testicles lined with ciliated epithelium arise from the tubules of the Wolffian body.

Therefore the mesodermal tumors, the mixed tumors, and the ectodermal tumors, originate in this same way.

*Read before the Lee County Medical Society.

If ectodermal cells are misplaced to such an extent that their presence is manifested by hair, skin, teeth etc., we speak of dermoid cysts. If the misplaced cells are located in one part of the ovary, and if they grow equally and if the skin cells as in normal glands, excrete their products, a cystic dermoid must result.

Since the contents found in dermoid cysts are secreted by the so-called "derm" of the cyst, they must lie when secreted between the "derm" and the enveloping tissue of the organ, or, tissue in which the dermoid grows. The larger the amount of secretion, the greater the pressure on the secondary tissue. If the mass of secreted material reaches a fair amount, and if it causes a tissue growth at its periphery and compresses the enveloping organ, so that it is stretched or flattened, we then have a cystic dermoid whose wall consists of a skin or dermoid layer, and the tissue of the enveloping organ. The original group of misplaced cells is then found only as a prominence in one part of the cyst wall, and it is this part which grows gradually for years, and in which are formed the hair, sebaceous glands and other parts of the cyst contents."

The greater the amount and number of the products formed by the misplaced ectodermal and mesodermal cells the larger the cyst.

A dermoid cyst may occupy a part or all of an overy, and while usually unilocular, as many as five cysts have been reported in one tumor. They are usually intraperitoneal, and rarely found between the layers of the broad ligament. Both skin and mucous membrane may be present in the cyst-wall, which is usually thicker than that of an ordinary ovarian cyst. The amount of skin may vary greatly; it may completely line a large cyst, or be confined to a small daughter cyst and be entirely overlooked at the examination of the specimen.

The contents of a dermoid cyst may include all or any of the following: Skin, mucous membrane, hair, teeth, nails, horns, sebaceous glands, sudoriferous glands, mammae, bone, unstriped muscle fiber, brain and nerve tissue. The hair may spring from the cyst wall in tufts or lie free in the cyst cavity, generally rolled into a ball. It may be short or long, and vary in color from blonde to black. It does not necessarily correspond in color to the hair of the patient. In old age it may become gray and be shed into the cyst cavity. The teeth may be embedded in bone formation or in the fibrous wall of the cyst. There is no limit to the number of teeth that may be found in one cyst; they may include all the varieties found in the jaw. Nails and horns project from the cyst wall and are formed of masse of squamous epithelium. Sebaceous glan and sweat glands are almost always presen and sometimes form small retention cyst Mammae are usually in the form of a nipp attached to a lump of fatty tissue containin sebaceous glands. Cases have been reporte of mammae which contained both milk an colustrum.

The fluid contents of the cyst are forme of the thick oily, cheesy secretion of the se baceous glands and degenerated epitheliun Small floculi of a cheesy or fatty material c the glands may be floating in the fluid. O exposure to the air the fluid hardens an turns deep yellow in color. After standin some time cholesterin crystals form on th surface.

Some authors regard this fluid as extreme ly irritating to the peritoneum, and war against allowing it to be spilled into the ab dominal cavity. It is difficult to see why thi should be so, unless the fluid was infected The possibility of tumor implantation fro this source has often been discussed, bu probably never occurs. I have seen a numbe of these cysts ruptured in being removed, bu with the exception of one case, in which pelvic abscess subsequently formed there wer no complications.

Owing to their poor blood supply and lo vitality these tumors are especially liable t suppuration, and as a result of the adenoi elements present and the embryonal characte of the cells, a large per cent undergo malig nant degeneration.

Dermoid tumors of the ovary are usuall unilateral and occur as often on the left a on the right side. Involvement of both ovaries is not very rare. Kelly reports one case in a series of twenty-two. Martin re ports four bilateral cases in 107. Mantell re ports 26 double dermoids out of 191 cases, the highest per cent reported. Martin ad vises that when removing a dermoid of the ovary the opposite ovary, if at all enlarged should be incised to determine the question of a double involvement.

The cysts may vary in size from those no larger than a corpus luteum, to that reported by Kelly, which contained two and a half gallons of fluid. As a rule they are rarely larger than a man's head. They may, or may not, be pediculated.

Dermoids are found at all ages, but usually appear in early life. They are the most common abdominal tumor in young girls before and during puberty. Their presence in the ovary apparently has no influence on conception, and only a mechanical one on pregnancy.

In the second case I report the patient, both of whose ovaries were involved had gone through nine pregnancies without mishap.

There seems to be a peculiar tendency on the part of dermoid cysts to produce attacks of localized peritonitis, even the smallest cysts being often found covered with a veil of adhesions. This condition was present in both the cases I operated, and I observed the same condition in several cases during my interneship at the Presbyterian Hospital of Chicago. The attacks of inflammation may be recurrent and simulate appendicitis. There is usually in these cases extension of the inflammation to the opposite tube and ovary. Tumors have been found completely detached from their original vascular supply, depending on the adhesions between them and other organs for nutrition. Dermoid cysts are not usually diagnosed before operation.

Kelly emphasizes the following points: (a) The spherical shape of the cyst giving the appearance of a mono-cyst; (b) the appearance in a young patient at the time of puberty, and (c) recurrent attacks of inflammation and a tendency to emaciation.

Küstner mentions as important their tendency to float up from behind the uterus and lie directly behind the abdominal wall. Quite as often, however, they are found choking the pelvis and simulating a soft fibroid or pelvic abscess. During my service at the Presbyterian Hospital of Chicago, a woman entered the hospital to be operated on for pelvic abscess. The pus, in large quantities, was evacuated through the usual incision behind the cervix. After washing out the cavity for several days it showed a tendency to close too rapidly, and the attending surgeon dilated the opening with his fingers. In doing so he discovered and removed several teeth, a nipple and portion of mammary gland, and a quantity of hair. E. C. Dudley has reported a similar case.

The cases which I report are as follows:

Case I.—This patient is 20 years of age; unmarried; frail and anemic. Her illness dates from puberty. Her menses began at fourteen, and have always been quite painful. They have never become regular, sometimes missing six to eight weeks, and occasionally flowing twice in one month. She was not constipated till one year ago. In spite of her trouble her health was fair till a year ago when she had a severe attack of pelvic peritonitis. She was in bed three weeks at this time, and since then has had almost constant pain in both sides of pelvis, with bearing down pains. Four months ago had a second attack of pelvic inflammation, was sick a week this time. Since the last attack, has been very constipated, and has lost about fifteen pounds in weight. Physical examination.—Heart and lungs normal; abdomen negative, rigidity of abdominal walls, and tenderness over both groins. Vaginal examination.—Irregular masses felt in both sides of pelvis; they are soft and fluctuating and cannot be differentiated from the tubes or ovaries. There is considerable tenderness. On opening the abdomen, the uterus was found retroverted. On each side there was a tumor mass obscured by extensive adhesions. The tumors were about the size of goose-eggs and firmly adherent to the broad ligament and pelvic walls, and on the right side to the uterus. The adhesions were so extensive and firm that it was considered best to remove the entire mass. As the contents of the cyst had been ruptured in attempting to free them, pan-hysterectomy was performed to facilitate drainage. Examination of specimens.—These consisted of uterus tubes and two tumors equal in size and about the size of goose-eggs. The walls were about the thickness of an orange peel and quite friable. They were lined with a rough, granular material, easily rubbed off with the fingers. The contents of both cysts was an oily brown fluid, which soon hardened to the consistence of soft butter. There was no evidence of hair, teeeth, etc. Microscopical examination showed the walls of the cyst to consist of a membrane resembling true skin, except for the absence of the rete-malpighi. The inner friable surface consisted of degenerated epithelium macerated by the oily contents of the cyst. In the skin walls were found sudoriferous and sebaceous glands and traces of hair follicles; according to Martin's classification, a simple dermoid cyst.

Case II.—This woman is 55 years of age; married, and mother of nine children; a farmer's wife. The patient complains of severe more or less constant pain in both sides of abdomen and in pelvis, backache, constipation and loss of strength and weight. She has always been a very hard working woman, but enjoyed good health till two years ago. Her pregnancies were uneventful and without complication. After the usual period of irregularity her menses ceased a year ago. Her pain, which began two years ago, she attributed to the menopause; it began in the left side, was only present at times and varied in severity; about a year ago began having pain in the right side also, and in the back. At this time she had considerable leucorrhea. In the last three months she has lost strength and weight steadily, and twice has been confined to her bed with sudden exacerbations of

symptoms. Examination.—Patient very poorly nourished. The heart and lungs are normal. The abdomen is very thin and lax, and on the left side of the abdomen is felt a rounded mass arising from the pelvis midway to the umbilicus. It is smooth, tense and painful. Vaginal examination.—The cervix points upward and to the left. The left fornix is filled with a rounded, tense swelling, continuous with the tumor felt through the abdomen. It is nodulated. In the right side can be made out a smooth, hard mass filling the fornix and pouch of Douglas. The tubes cannot be felt nor the fundus of the uterus. The urine was normal. The red blood corpuscles were 3,200,000; white corpuscles 6,800, and hemoglobin 65 per cent. In opening the abdomen the following condition was observed. The mass felt on the left side rose from behind the broad ligament, and was tightly fixed between the left pelvic wall, and the uterus, to which it was firmly adherent. The tumor was about the size of a cocoanut. The sigmoid flexure was firmly adherent over it for a length of about five inches. The usterus was retroverted and the tumor projected over it. In the right side was a round, smooth, cystic tumor about the size of a lemon adherent to the broad ligament and to the posterior wall of the pelvis. The adhesions were slight and easily separated. It was twisted once upon its pedicle to the right, contrary to Freund's law that right-sided growths twist to the left and vice versa. In removing the tumors and uterus, which was done with some difficulty, owing to many adhesions, the uterus was amputated at the vaginal junction to save time.

Examination of specimens.—The left and largest tumor was multilocular, having three compartments divided by thick friable walls. The capsule of the cyst was thick and friable. Inside the cyst was lined with a rough skin lining, similar to that described in the first case and contained the same oily, yellow fluid. The right-sided cyst was uniloculer and the membrane was thinner and tougher. The inner lining was comparatively smooth and the liquid lighter, resembling thin pus. There was no odor. The cyst was filled with a large ball of hair, tightly matted and dark brown in color. No hair was found growing from the cyst-wall. Microscopical examination showed the wall to contain numerous hair follicles and sebaceous glands and to be lined with a typical skin lining.

In these two cases the pathologic findings were similar, and it is interesting to note that the first case had no symptoms until the beginning of puberty, while in the second case no symptoms were noted till the menopause.

SOME OF THE NEGLECTED REMEDIAL MEASURES ASIDE FROM DRUGS.*

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WHAT we shall say at this time is presented with no thought of bringing before you anything new, nor of calling attention to any measure not well known and recognized by the profession in general, but in the language of the great apostle to the Gentiles, "I write that I may stir up your pure minds by way of remembrance."

Science is sometimes defined as classified knowledge. We learn and retain by classifying. We fail to learn and often lose many valuable ideas because we fail to properly classify. So it is well for us to make some distinction in the use of remedial measures.

It is my opinion that there is a tendency among us to pin our faith too exclusively to the use of drugs, often neglecting or overlooking other measures just as important and possibly more beneficial. I am by no means a disbeliever in the efficacy of drugs. I heartily indorse the therapeutic principle, "The smallest amount of drug to accomplish the desired therapeutic effect," and I would insist upon the use of active medication with a clear and positive knowledge of the physiological effect of the drugs.

To my mind we are responsible in quite a measure, for much of the charlatanism and quackery that prevail at this present time. The profession has neglected to make use of some of the very measures that have made so much capital for some of the self-styled scientists, thus failing to utilize some very valuable measures that are the common property of the profession, and should be utilized and made profitable to us in our work.

Mechano-therapeutics, manipulation, Swedish movement, gymnastics and calisthenics; these are all legitimate therapeutic measures and are recognized as such.

Our medical college curriculums are direlict in not giving more time and attention to some of these measures. I believe more time should be spent in our college work upon regional anatomy, the student should be made thoroughly familar with the topography of the living body, the location of the more important organs and viscera in the live subject, so that the nature and extent of anatomical changes brought about by disease or injury may be more readily recognized and appreciated. In addition to the above, there should be given a thorough course in mechano-therapeutics.

*Read before the First District Medical Society of Iowa at Fairfield, January 26, 1906.

Massage.—This remedial measure is defined as a scientific treatment by certain passive systematic manipulations upon the nude skin of the body. The relief of diseased conditions by this means is by no means new. The Swedes for centuries have practiced massage together with passive movement, for the same purpose for which it is used today, viz., to prevent stagnation, and produce an even and harmonious movement of the fluids of the body, also to stimulate or inhibit nerve function. These measures should be combined with, and not divorced from, the study of medicine. Much of this work has gone over to the scientific colleges, and physical culture is an important part of our literary college work. I take it that there is no place in the realm of science, nor no profession wherein the need of a thorough knowledge of gymnastics and physical culture is greater than in our profession, and no one should be more competent to direct the kind, and amount of physical culture in which a person should indulge, than the physician.

There are four movements employed in giving massage treatment, viz., stroking, friction, kneading and percussing. These together with flexion and extension, also rotation, constitute the major manipulations.

Each of these may be readily mastered, and utilized in many conditions where our knowledge of anatomical conditions or changes may suggest.

These various movements should be centripetal, or in the direction of the flow of normal fluids, and one movement should often follow another.

Stroking is performed with the palm of one or both hands, with the thumb or finger tips and is most used upon the extremities.

Friction is usually performed over one group of muscles with the thumb or finger tips, should be centripetal, and followed by stroking.

Kneading is best done with the finger tips of both hands or the wrist part of the palm. Its aim is to reach deep structures and to separate them from surrounding structures. The elasticity of muscles may be determined by thus increasing the distance between their points of attachment.

Percussion is done with the finger tips also, or the ulnar border of the hand striking the flesh quickly. The therapeutic benefit of these procedures upon the tissues may be mentioned as follows: Stroking is most active upon the skin, and superficial vessels, in stimulating movement of fluids. Friction stimulates nerve tissue both motor and sensory. Kneading stimulates deep structures and stimulates or inhibits according as pressure is constant or intermittent. Percussion stimulates both muscle and nerve tissue.

Persons of a sedentary habit are those upon whom this line of treatment is most beneficial, for the obvious reason that there is less activity in the circirculating fluids and a weakened musculature.

Some of the diseases in which the above mentioned are useful are as follows: General muscular debility, whether due to acute disease, or chronic, or in recovering from operative procedures. Insomnia, superficial neuralgias, muscular atrophy, rheumatism and chronic constipation, are all conditions in which massage is helpful. Chronic constipation is a condition that confronts us often and is a condition in which drug medication alone is so unsatisfactory that it deserves more than a passing notice. In those atonic conditions of the bowel where the fecal discharges are bullet-like and covered with slimy mucus, indicating a catarrhal condition of the bowel, local massage of the abdomen, using the finger tips and proceeding from the center to the circumference with gentle kneading, and the free use of olive oil, both per ovum and per rectum, will relieve more cases than any other treatment.

Massage is used with benefit in many chronic eye troubles, phlyctenular ulcers both of conjunctiva and cornea, with chronic inflammation are benefited by local massage.

Scoliosis is a condition in which we can offer but little to the patient aside from this treatment. The aim of treatment should be to invigorate and develop the weakened muscles upon the convex side, to elongate the spine, to raise the lower shoulder and to counteract rotation of the vertebra, all of which can be best accomplished by local and general massage treatment, especially in the early stages of the disease.

Aquipuncture.—This applies to the inserting of sharp pointed instruments into the tissues of the body for the purpose of relieving pain and relaxing muscular contraction. It is seldom made use of today, but is a useful measure in some cases of acute lumbago and sciatica. Deep injections into the muscles of the back of normal salt solution for the former and of chloroform or morphine in the latter, is very helpful.

Hydrotherapy.—The use of this remedial measure, either hot or cold, is well recognized by the profession, and is, to a considerable extent, understood by the laity; yet while the above is true, I fear there are physicians who use the dangerous and poisonous coal tar products, to reduce temperature and quiet nervous conditions, instead of harmless cold. It is so easy to write a prescrip-

tion or to dispense a few powders or tablets, that I fear many times this agent is neglected to the detriment of the patient. Often is this painfully true in the diseases of infancy and childhood.

In the selection of heat or cold in a given case, many times the comfort and well being of the patient is our only guide. In asthenic cases with little fever, but much nervousness and pain, heat is to be preferred; also in severe sprains, headache in women, heat locally is to be used. In most local inflammations, whether superficial or in deep structures, cold is best.

Its therapeutic effect is well known in that it checks inflammation, stops congestion, reduces pressure upon nerves and thus relieves pain.

As a general therapeutic measure the use of cold for its influence upon deep-seated inflammation, for the reduction of fever, for its beneficial effect upon the cerebral circulation, and its soothing and quieting effect upon the nervous system is not to be overlooked. The ice-bag has many advocates in acute lobar pneumonia, and many equally qualified to speak, condemn its use. In properly selected cases, those of robust constitution, with high temperature and in the early stage of the disease, I regard it as the very best local application.

Cardiac palpitation, endo and pericarditis, meningitis, acute mastoiditis, pruritus ani and vulva acute prostatitis are conditions in which cold is a useful remedial measure.

Much has been written upon the best manner of applying hydrotherapy in fevers. Some favor tubbing, others the cold pack and again others simply sponge. The temperature of the bath should vary with the condition of the patient. A patient may be nervous, restless and sleepless, yet have little fever. In such a condition the tepid or warm bath should be used, for its tonic and quieting effect upon the nervous system.

In the rural districts where the facilities for the use of this measure are very meager, I have found that systematic, regular sponging with ice cold water a very reliable substitute for the Brand bath.

Baruch, the great apostle of hydrotherapy, gives some very wholesome views in a few emphatic don'ts as found in Hare's excellent work on therapeutics, viz.:

"Don't bath with cold water to reduce temperature only.

Don't permit cyanosis or chattering of the teeth.

Don't stop bathing because patient complains of cold, but consult your thermometer and shorten bath.

Don't neglect friction in all cold applications.

Don't neglect this therapeutic measure because the ideal appliances are not at hand, but utilize what you have.

Don't forget that the principal thing to expect and work for in applying cold is the reaction that follows."

Before leaving this very important therapeutic measure there are three conditions in which cold in the form of an ice pack should be emphasized, viz., in acute articular rheumatism the ice pack is, in my opinion, the very best local measure to use; in recent irreducible inguinal hernias the ice-bag has hepled me in many cases.

In membranous croup, not diphtheritic, an ice-bag applied early and continually to the throat is the very best external application, and will do good in all kinds of croup.

Dry heat as a therapeutic measure has been quite extensively advertised to the profession of late and many different kinds of apparatus for the application of this measure are upon the market.

Renal and hepatic insufficiency are two conditions wherein dry heat is indicated, whether due in either case to acute or chronic congestion.

I am of the opinion that many cases of acute nephritis could be cured by the careful, systematic and persistent use of this agent.

Acute colds are best relieved by a dry or moist cabinet bath. I have utilized dry heat in the treatment of rectal and anal troubles with benefit. A simple contrivance consisting of a perforated stool the heighth of a dining chair, around which is placed an oil cloth or rubber, reaching from the seat to the floor; beneath which I place an asbestos alcohol lamp. Seating the patient upon the stool I raise the temperature beneath to 200 deg. F., thus submitting the parts to the above temperature for thirty minutes every day. Hemorrhoids, both external and internal, pruritus ani, fissures and ulcers have all been benefited and some complete cures resulted.

Counter-Irritation.—While this therapeutic measure has somewhat fallen into disuse, especially as pertaining to vesication, yet it has its proper place in the relief of diseased conditions, and its use is based upon sound physiological laws. There are four distinct purposes for which this measure may be used, viz.: To effect local inflammation; to cause absorption of inflammatory products; for the relief of pain and for its effect upon the whole system. Its action is both direct and reflex, usually should be applied for the lat-

ter effect. In pleurodynia, for example, counter-irritation should be placed not over the seat of pain, but near the spine over the point where the nerve at fault takes its exit.

In iritis the irritation should be back of the ear upon the affected side. Among the inflammatory affections in which vesication may be mentioned pleurisy, pneumonia, synovitis, cerebritis, meningitis and mastoiditis. In the early stage of acute pleurisy, and in the second and third stages of lobar pneumonia a small cantharidal blister will relieve pain and subdue inflammation in the former, and will hasten resolution in the latter. In catarrhal pneumonia in infants and children the mustard poultices applied twice or thrice during each twenty-four hours is in my judgment, preferable to any of the mud preparations so-called.

Cupping.—This is a useful measure in a limited number of cases. The leech is not to be obtained many times when local blood letting is indicated, so the use of wet cupping is our only alternative. It answers the place very well and is much less revolting to timid patients. I have found wet cupping beneficial in some of the stubborn eye troubles, especially trachoma when complicated with phyctenular ulceration of the cornea. An ounce of blood taken from the temple, and repeated every third day has resulted in recovery in some very stubborn cases in my hands. In chronic muscular rheumatism, especially of the lumbar muscles in elderly people, wet cupping will be generally helpful as an adjunct to drug medication.

Inhalation.—In view of the prominent part played by pathogenic germs, as a causative factor in many diseases of the respiratory organs, the value of inhalation should be more thoroughly understood and more frequently made use of in the treatment of diseases of these organs. Steam impregnated with some volatile antiseptic has been extensively employed in disease of the air passages, especially in children.

The generation of steam in the sick-room is helpful in all bronchial and laryngeal troubles. Medicated oils vaporized are soothing and healing to the respiratory mucus membrane. Lime vapor is not to be lost sight of in croup, and medicated vapor in pertussis is a very useful adjunct in the treament of this disease.

The open air treatment of pulmonary tuberculosis is in advance of all therapeutic measures for the cure of this disease today, and the profession should be thoroughly alive to the benefit of gymnastic exercises in the open air, especially as pertains to thoracic gymnastics, and should direct such treatment in a systematic and intelligent manner.

Lavage.—I am quite sure this is a much neglected therapeutic measure. Its diagnostic value is important also. Many cases of fermentative dyspepsia, chronic in form, with more or less dilatation of the stomach, and in which pepsins, pancreatins and bitter tonics are not curative, a few thorough stomach washings will give better results than any medication can possible do.

In chronic gastric catarrh resulting from obstruction at the pyloric orifice, especially when due to cholecystitis, lavage of the stomach every day with a warm alkaline antiseptic solution is curative. In most cases of chronic gastric indigestion, lavage once or twice a week is a great help to our success in treating these often troublesome cases.

THE RELATION OF MAN TO NATURE (A STUDY PROMPTED BY "TESTIMONIES OF THE SEPULCHRES").

ALBERT S. ASHMEAD, M. D.

NEW YORK.

ELEVENTH PAPER.*

Haeckel's "Wonders of Life" is full of chemistry of life. The Riddle (Weltraethsel) appeals to me much more strongly—for the reason that I care less for the chemistry than I do for the conclusions of scientists from chemistry. The Riddle of the Universe is divided into four great divisions; Anthropological, cosmological, psychological and theological These are treated so directly and thoroughly with no superfluous words that the book presents an attractiveness from which it is difficult to escape—one cannot easily resolve to lay the book down until it is read through. The last edition, that published at Bonn, by Emil Strauss, 1903, is the best. There must be an English rendering, for it must be that it has been translated. My copy is a "popular" edition. As to the "Wonders of Life," in his chapter on Origin of Life, he expounds the older and later hypothesis of archigony or spontaneous generation.

We still read sometimes that the "unscientific" belief in abiogenesis or archigouy, has been definitely refuted by Pasteur's experiments, and that the question of the origin of ilfe has thus become an insoluble enigma. According to Prof. Haeckel there is an astonishing superficiality and lack of discernment in such an assertion. It was the myth

* The first paper of this series appeared in the MEDICAL FORTNIGHTLY issue of April 25, 1905.

of saprobiosis (the birth of living from dead or putrid organic matter), and not the theory of archigouy, which was refuted by Pasteur, when he showed convincingly that new organisms never appear in infusions of organic substances when these are sufficiently boiled, and when the atmosphere which reaches them has been chemically purified. Those experiments did not even touch the important and pressing question which alone interests us: "How did the earliest organic inhabitants of our earth, the primitive organisms arise from inorganic compounds?" Prof. Haeckel holds, and has held for forty years, that we may confidently assume that in the period when archigony took place—the time when organic life first appeared on the cooled surface of the earth, at the beginning of the Laurentian age—crystalization of rocks—the conditions of existence were totally different from what they are now. He admits, however, that as yet we are very far from having a clear idea of what they were, or from being able to reproduce them artificially. We are just as far from having a thorough chemical acquaintance with the albuminous compounds to which plasm belongs. "We can only assume that the plasma-molecule is extremely large and made up of more than a thousand atoms, and that the arrangement and connection of the atoms in the molecule are very complicated and very unstable. Of the real features of the intricate structure, however, we have as yet no conception. As long as we are ignorant of this complex molecule structure of albumin, it is useless to attempt to produce it artifically." Is it not absurd, then asks Haeckel, because the miscarriage of the attempt to produce the plasm artificially under such disqualifying circumstances to cry out: "Spontaneous generation is impossible?"

He holds, in the first place, that the phenomena of life are merely functions of plasm, determined by the physical, chemical and morphological character of the living matter. He is equally convinced that the energy of the plasm (by energy here is meant the sum total of the forces which are connected with the living matter) is subject to the general laws of physics and chemistry. The obvious regularity of the vital processes and the organization they produce are, in Prof. Haeckel's eyes the outcome of natural evolution; their physiological factors (heredity and adaptation) are subject to the law of substance. All the various functions have been mechanically produced, orderly structures having been created by adaptation and transmitted to posterity by heredity. Nutrition, far from being a miracle, is pronounced a physic-chemical process, the metabolism of which has an analogy in inorganic catalysis. Neither is reproduction, in our author's view, a miracle, but a mechanical consequence of transgressive or redundant growth, analogous to the elective multiplication of crystals. The movement of organisms, indeed, is, in every form, affirmed to be not essentially different from the movements of inorganic dynamos.

In one of his most interesting chapters the author reminds us that the wonder of life which in the widest sense of the word we call "nutrition" is the chief factor in the self-maintenance of the organic individual. A large part of the several nutritive processes are already explicable by the known physical and chemical properties of inorganic bodies; another part of them we have not yet succeeded in thus explaining. Prof. Haeckel, nevertheless, avers that all "impartial physiologists agree that such an explanation is possible in principle, and that we have no need of introducing a special vital principle. All the trophic (nutritive) processes, without exception, are subject to the law of substance." It is certain that "nutrition" is always bound up with a chemical modification of the living matter, an organic metabolism (circulation of matter), and a corresponding circulation of force. In this chemical process, plasm, or "living substance," is used up, built up afresh, and once more disintegrated. The metabolism which lies at the root of the chemistry of food is the essential feature in the manifold processes of nutrition.

Of all the chemical processes the most important, because the most indispensable, for the origin and upkeeping of organic life is the constant reconstruction of plasm. To this process our author applies the name of plasmodomism (plasma-upbuilding), or carbon-assimilation. The fact is recalled that botanists have been of late accustomed to call the process briefly assimilation, thus causing a good deal of misunderstanding. The more common and older meaning of assimilation in animal physiology was in the widest sense, the intussusception and preparation of the food received. The carbon assimilation in plants, which our author calls plasmodomism, is only the first and original form of plasma production. It means that the plant is able, under the influence of sunlight to form carbohydrates, and from these new plasm, out of simple inorganic compounds (water, carbonic acid, nitric acid and ammonia), by synthesis and reduction. The animal is unable to do this. It has to take its plasm in its food from other organisms; plant eaters take it directly and animal eaters indirectly. The title of plasmophagous is given to these animal "plasma eaters." In working up the foreign plasm it has eaten

and converting it into its own specific form of plasm the animal also accomplishes assimilation; but this animal albumin assimilation is totally different from the vegetal carbon assimilation. The fresh formed animal plasm is then broken up by oxidation, and by this analysis the energy needed for the vital movements is obtained. We repeat that all true animals have to derive their food from the plant kingdom; the vegetal feeders directly, and the flesh feeders indirectly, when they consume vegetal feeders. Hence the animals are, in a certain sense, as the older natural philosophy put it hundreds of years ago, "parasites of the plant world." From the view-point of phylogeny the animal kingdom is, therefore, clearly much younger than the plant kingdom. The development of the animals from the plants was, according to Haeckel, determined originally by a change in the method of nutrition called metasitism.

After describing the functions which the organs of water breathing and air breathing discharge in the complex process of nutrition, the author directs attention to the fact that the function of removing unusable matter is no less important to the organism than is breathing. Just as breathing gets rid of the poisonous carbonic acid, so the kidneys remove fluid and solid excreta. Prof. Haeckel remarks that in certain organisms special organs for removing excreta would be superfluous inasmuch as this function is in their case performed by the stream of water that is continually passing through the whole body, and then proceeds to show how special excretory organs were gradually evolved.

It is well known that, while nutrition insures the maintenance of the organic individual, reproduction insures that of the organic species or the group of forms which we distinguish from others by the name "species." In a chapter dealing with the subject the rise of new individuals by reproduction from parent organisms is defined as a natural phenomenon, with definite time restriction. It cannot have continued from eternity on our planet, as the earth itself is not eternal, and even long after its formation was incapable of supporting organic life on its surface. This only became possible when the surface of the glowing planet had cooled sufficiently for liquid water to settle on it. Until this stage was reached carbon could not enter into those combinations with other elements (oxygen, hydrogen, nitrogen and sulphur) which led to the formation of plasm. As Prof. Haeckel intends to deal with the process of archigony, or spontaneous generation, in the fourth section of his book, he confines himself in the chapter on reproduction to the study of tocogony, or parental generation.

The various forms of tocogony, or the reproduction of living things, are generally di vided into two large groups: On the one hand there is the simple form of asexual generation (monogony); on the other, the complex form of sexual generation (amphigony). In many of the lower animals, however, and in most of the plants we find that asexual multiplication, or monogony, can take place through cleavage (cuttings) or budding. In the lowest organisms monogony is the only form of propagation. Some of the older writers, and even some recent ones, on biology have regarded sexual generation as a universal function of organisms and have declared that it dates from the beginning of organic life. Prof. Haeckel holds, on the contrary, that historical biology must say that monogony is the older and more primitive form of parental generation and that amphigony was secondarily developed from it. To render intelligible to us the complex and often very intricate phenomena of sexual generation, as we find them in the higher organisms, our author bids us compare them with the simpler forms of asexual generation at the lowest stages of life. "We then learn that they (the phenomena of sexual generation) are by no means unintelligible and supernatural marvels, but natural physiological processses, which, like all others, may be traced to the action of simple, physical forces. The form of energy which lies at the root of all tocogony is growth (crescentia). And as this phenomenon is also the cause, in the form of gravitation, of the formation of crystals and other inorganic individuals, we do away with one of the boundaries which people would establish between organic and inorganic nature." Again: "Reproduction is a kind of nutrition and growth of the organism beyond the individual standard, building up a part of it into a whole. The limit of individual size is determined for each species by two factors—the inner constitution of the plasm, which is inherited, and the dependence on the outer environment, which controls adaptation. When this limit has been passed the transgressive or redundant growth takes the form of reproduction. Every species of crystal has also a definite limit of growth; when this is passed, new crystal individuals are formed in the mother-water, on the old individual, which grows no further."

Asexual or monogenetic tocogony (also called "vegetative multiplication") is always, as we have said, effected by a single organic individual, and so is traced by our author to its transgressive growth. When, in vegeta-

tive multiplication, the entire body is divided into two or more equal parts, the monogenetic process is called division or segmentation. When a special part, on the other hand, separates from the generating organism in the form of a bud, the process is called budding or gemmation. The essential difference between the two forms of a sexual generation is that, in division, the parent disappears in its partial products (children), which are of the same age and form. In budding, on the other hand, the generating parent retains its individuality, it is larger and older than the young bud. Prof. Haeckel holds the fact that in division or segmentation the individual, as such, is destroyed, to be a sufficient refutation of Weismann's theory of the immortality of the unicellulars.

The essential feature of sexual generation is of course the coalescence of two different cells, a female ovum (egg cell) and a male sperm cell. The simple new cell which arises from the blending of these paternal and maternal cells is the stem cell, or stem mother of all the cells that make up the tissues of the offspring. We are reminded that the manifold and intimate relations which exist in man and the higher animals between their sexual life and their higher psychic activity have given rise to plenty of "wonders of life."

It is well known that, in the case of certain organisms, the male sex has becomes superfluous in the course of time; the ovula develop without the need of fertilization. That is particularly the case in many of the articulates (crustacea and insects). Prof. Haeckel recalls that when Siebold proved at Munich the facts of miraculous parthenogenetic concepiton in various insects, he was visited by the Catholic Archbishop of the city, who expressed his gratification that there was now a scientific explanation possible of the conception of the Virgin Mary. "Siebold had unfortunately to point out to him that the inference from the parthenogenesis of an articulate to that of a vertebrate was not valid, and that all mammals, like all other vertebrates, reproduce exclusively from impregnated ova." Our author adds: "We also find parthenogenesis among the metaphyta, as in the chara crinita, among the algae, the antennaria alpina and the alchemilla vulgaris among the flowering plants. We are as yet ignorant, for the most part, of the causes of this lapse of fertilization. Some light has been thrown on it, however, by recent chemical experiments (the effect of sugar and other water-absorbing solutions), in which we have succeeded in parthenogenetically developing unfertilized ova."

The production of the organism is, as we have said, often regarded as a perfect mystery of life and as the vital function which most strikingly separates the living from the lifeless. Our author insists that the error of this dualistic notion is made clear the moment one considers impartially the whole gradation of forms of reproduction, from the simplest cell division to the most elaborate form of sexual generation. "It is obvious," he says, "all through that transgressive (redundant) growth is the starting point in the formation of new individuals. But the same must be said of the multiplication of inorganic bodies —the cosmic bodies on a larger scale, crystals on a smaller scale. When a rotating sun passes a certain limit of growth, by the constant accession of falling meteorites, nebulous rings are detached at its equator by centrifugal force and condensed into new planets. Every inorganic crystal, too, has a certain limit of individual growth determined by its chemical and molecular constitution. However much mother-water you add, this limit is never passed, but new crystals (daughter crystals) form on the mother crystal. In other words, growing crystals propagate."

Haeckel's theory of abiogenesis, or archigony, advanced in 1866, simply assumed that the chemical process of plasmodomism, or carbon-assimilation, which we find repeated every second in every plant cell exposed to the sunlight, and which has become an "inherited habit" of the green plant cell, developed of itself at the beginning of organic life; in other words, is a catalytic process (or one analogous to catalysis), the physical and chemical conditions of which were present in the status of the earth's surface at that time. The well known botanist Carl Naegeli adopted Haeckel's hypothesis in 1884, and formulated the following proposition: "The derivation of the organic from the inorganic is, in the first place, not a question of experience and experiment, but a fact deduced from the law of the constancy of matter and force. If all things in the material world are casually related, if all phenomena proceed on natural principles, organisms, which are formed of and decay into the same matter, must have been derived originally from inorganic compounds. In 1875 Edward Pfluger, the physiologist, pointed out that living albumin always contains cyanogen (a body composed of an atom of carbon and an atom of nitrogen), but that dead nutritive albumin does not. The belief expressed by him that it is cyanogen that gives its characteristic vital properties to plasm is supported by a number of analogies found to exist between cyanide compounds, especially cyanic acid and living albumin. Both bodies are fluid and transparent at a low temperature, while

they set at a higher; both of them break up in the presence of water into carbonic acid and ammonia; both produce urea by disassociation. Pfluger thought the similarity of the two substances so great that he might describe cyanic acid as "a semi-living molecule." Both substances grow in the same way, by concatenation of the atoms, homogeneous groups of atoms joining together, chain-wise, in large masses.

From the viewpoint of the theory of archigony and its possible physical basis, Prof. Haeckel finds especial interest in the chemical fact that cyanogen and its compounds—cyanide of potassium and cyanic acid—are only formed at incandescent heat; that is to say, when the requisite inorganic nitrogenous compounds are put with glowing coals, or the mixture is heated to incandescence. Other essential constituents of albumin, such as carburetted hydrogen, or alcohol radical, can be formed synthetically in heat. "Thus," thought Pfluger, "nothing is clearer than the possibility of the formation of cyanic compounds when the earth was entirely or partially in a state of incandescence or great heat. We see how extraordinarily all the facts of chemistry point to fire as the force which has produced the constituents of albumin by synthesis. Hence life was born from fire, and the chief conditions of its appearance are associated with a time when the earth was a glowing ball of fire. When we remember the incalculably long period in which the surface of the earth was slowly cooling we see that cyanogen, and the compounds that contain cyanogen and carburetted hydrogen, had plenty of time and opportunity to follow out to any extent their great tendency to the transposition and formation of chains of atoms, and, with the co-operation of oxygen, and afterward of water and salt, to evolve into the self-decomposable albumin, which is living matter."

Neumeister and other believers in "vital force" have pronounced Pfluger's cyanogen theory untenable, because "there is an impassable gulf between cyanic compounds and proteids." Prof. Haeckel holds that the criticism is answered by the living albumin itself, which always contains in its nitrogenous decomposition products the radical of cyanide, or other substances (urea) that can be artificially produced from cyanic compounds. Another objection is that "the cyanic compounds which were formed in the heat must have very quickly perished on the subsequent appearance of water." Our author submits that the objection has no weight, becaue "we can form no definite idea as to the special conditions of chemical activity in those times. We can only say that the conditions during that long period (embracing millions of years) were totally different from those of chemical action at the surface of the earth today. The real ground of the opposition of Neumeister and other vitalists is their dualistic conception of nature, which will maintain at all costs the deep gulf between the organic and inorganic worlds."

What are the real causes of normal or physiological death, as distinguished from accidental or pathological death by illness, parasites, mishaps, etc.? Normal death takes place in all organisms when the limit of the hereditary term of life is reached. The normal span of life has been determined in all species, in the course of their evolution, by adaptation to special conditions, and has then been transmitted to offspring by heredity. The span, of course varies enormously in different classes of organisms. Many of the unicellular protophyta and protozoa live only a few hours, while, on the other hand, the larger vertebrates are not uncommonly a hundred years old, and many trees live for a thousand years. The relatively few individuals who escape external or accidental causes of death find the end of life in old age or senility, by the gradual decay of the organs and dwindling of their functions. The cause of this senility and the ensuing natural death is determined for each species of organisms by the specific nature of its plasm. The senility of individuals consists in the inevitable increase in the decay of protoplasm and in the metaplastic parts of the body which this decay produces. Each metaplasm in the body favors the inactive break-up of protoplasms, and so, also, the formation of new metaplasms. The plasm loses more and more the power to replace by regeneration the losses it sustains by the exercise of the vital functions. As the receptivity of the brain and the acuteness of the senses gradually diminish, so the muscles lose their energy, the bones become fragile, the skin dry and withered, while the elasticity and endurance of the movements decrease. All these normal processes of senile decay are caused by chemical changes in the plasm, in which dissimilation gains constantly on assimilation. In the end they lead inevitably to normal death. The great majority of men, however, pass away, as we have said, through illness, long before the normal term of life is reached. The external causes of premature dissolution are the attacks of enemies and parasites, accidents and unfavorable conditions of life.

In his chapter on death, Prof. Haeckel discusses the question whether, when the circumstances of life press too hard upon a hu-

man being, who, without any volition of his own, has been evolved from fertilized ovum —when, instead of the hoped for good, there comes only care and need, sickness and misery of every kind—he has the right to put an end to his sufferings by death. There is no doubt that the conventional morality condemns suicide under any circumstances; but our author holds that the reasons alleged by it are ridiculously slight and are not improved by having the mantle of religion wrapped around them. "The voluntary death," he says, "by which a man puts an end to intolerable suffering is really an act of redemption. We should, therefore, describe it as self-redemption, and look upon it with Christian sympathy, not brand it pharisaically as 'self-murder.' As a matter of fact, this contemptuous phrase has no meaning, since murder is taking away a man's life against his will, while the suicide dies voluntarily. Hence, he usually deserves our sympathy, not contempt, and certainly not punishment." Haeckel adds: "Our asylums grow bigger and more numerous every year, and we have sanitaria on every side, in which the baited victim of modern civilization seeks refuge from his miseries. Some of these miseries are quite incurable, and the sufferers have to meet certain death in terrible pain. Many of these creatures look forward eagerly to their redemption from evil and the end of their miserable lives. The important question arises whether, as compassionate men, we should not be justified in carrying out their wish and ending their sufferings by a painless death." Reminding us that faithful dogs and noble horses, with which we have lived for years, and which we love, are, out of tenderness, put to death and relieved from pain when they fall hopelessly ill in old age; Prof. Haeckel suggests that in the same way we may have the right, if indeed it be not our duty, to put an end to the sufferings of our fellow men. It seems that in Germany, as elsewhere, very different opinions on the subject are current among medical men. Prof. Haeckel avers that "many experienced physicians who practise their profession in a spirit of sympathy and without dogmatic prejudice, have no scruple about cutting short the sufferings of the incurable by a dose of morphine or cyanide of potassium when they desire it. Very often this painless end is a blessing, both to the invalids and their family." On the other hand, a majority of physicians and jurists hold that such an act of sympathy is a crime and that it is a physician's duty to maintain the life of his patient as long as he can, in all circumstances.

There is no doubt in the mind of any biologist that the ancient Spartans owed a good deal of their famous bravery, of their bodily strength and beauty and of their mental energy and capacity to the traditional custom of doing away with children who were born weakly or crippled. The same custom is followed today among many savage races. When Prof. Haeckel, in his "History of Creation," published in 1868, pointed out the advantages of the ruthless method of selection practised at Sparta for the improvement of a race a storm of pious indignation broke out in the religious journals. In the book before us he repeats the question: "What good does it do to mankind to maintain artificially and rear sedulously the thousands of cripples, deaf mutes, idiots, etc., who are born every year with an hereditary burden of incurable disease? Is it not better and more rational to cut off from birth the unavoidable misery which their poor lives will bring to themselves and their families?" Our author insists that the opposition to the systematic elimination of weaklings is due only to sentiment and the power of conventional morality; that is to say, to the hereditary bias which is clothed in early youth with the mantle of religion, however irrational and superstitious be its foundation. Prof. Haeckel is convinced that "pious morality of this sort is often really the deepest immorality. Sentiment should never be allowed to usurp the place of reason in these weighty ethical questions. As pointed out in the first chapter of the 'Riddle,' sentiment is a very amiable, but a very dangerous function of the brain. It has no more to do with the attainment of the truth than what is called revelation."

In a chapter of his former book, the "Riddle of the Universe," our author set forth the scientific reasons which, in his opinion, forbid us to accept the dogma of personal immortality. As the most vehement attacks, however, have been made on that chapter by metaphysicians of the dominant school, and by Christian theologians, he returns to the question in the present volume. He has become convinced, he tells us, by the innumerable letters he has received, and by conversation with educated people of all classes, that no other dogma is so firmly established and highly valued as athanatism, or the belief in personal immortality. Most men will not give up at any price the hope that a better life awaits them beyond the grave which will compensate them for all the pain and suffering they endure here. It is pointed out that "in the fiction of this future life, the medieval geocentric idea still forms the capital feature. Troelslund has shown, in his 'Idea of Heaven and of the World,' how this theory still dom-

inates the metaphysics of the majority of men. In spite of Copernicus and Laplace, Heaven is still for most people the semi-circular blue glass bell that overarches the earth. We still hear the praises of our prospective life in this heaven sung daily in sermons and speeches and festive orations. The orator extends his right hand 'upward' to the infinite starry space of heaven, forgetting that the radius of the direction toward which he is pointing changes every second, and in twelve hours will reach the precisely opposite region of space, and become 'downward.' Other believers endeavor to be still more concrete, and point out definite celestial bodies as the homes of immortal souls." Haeckel reasserts in the book before us that "modern cosmogony, astronomy and geology entirely exclude these pretty fictions from science; and modern psychology, physiology, ontogeny and phylogeny rigorously refuse an inch of ground for athanatism."

Our author recognizes the founder of systematic optimism in Gottfried Leibnitz, who, in his "Theodicy," taught that God (the "All wise, all good, and almighty Creator of the world,") had, with perfect consciousness, created "the best of all possible worlds;" that His infinite goodness, wisdom and power are seen everywhere in the pre-established harmony of things, but that the individual human being, and mankind, taken as a whole, have only a limited capacity for development. Haeckel, on his part, submits that "the man who knows the real features of the world, who has honestly confronted the tragic struggle for life that rules throughout living nature, who has sympathy for the infinite sum of misery and want of every kind in the life of men, can scarcely understand how an acute and informed thinker like Leibnitz could entertain such optimism."

Turning to pessimism, which, of course, is the direct opposite of systematic optimism, because while the one holds the universe to be the best the other regards it as the worst of all possible worlds, the author reminds us that this pessimistic conception has found expression in the oldest and most popular religions of Asia, Brahmanism and Buddhism. Both these Hindoo religions were originally pessimistic, and at the same time atheistic and idealistic. Schopenhauer especially directed attention to this fact, declaring that they were the most perfect of all religions, and importing their leading ideas into his own system of philosophy. He pronounced it "a glaring absurdity to attempt to prove this miserable planet the best of all possible worlds—this cockpit of tortured and suffering beings, who can only survive by destroying one another, in which the capacity for pain grows with knowledge, and so reaches its acme in man. Truly optimism cuts so sorry a figure in this theatre of sin, suffering and death that we should have to regard it as a piece of sarcasm if Hume had not given us an explanation of its origin (the wish to flatter God and hope for some result for it). To the palpable sophistry of Leibnitz, who would prove this earth the best of all possible worlds, we can oppose a strict and honest proof that it is the worst of all possible."

Is religion indispensable for the evolution and maintenance of morality? Let us see how Haeckel answers this momentous question. It will be observed that his reply coincides almost exactly with that made by Herbert Spencer in the "Data of Ethics." In a concise exposition of his own views on the subject, our author starts with avowing his own personal conviction that "sympathy is not only one of the noblest and finest functions of the human brain, but also one of the first conditions of the social life of the higher animals. The precepts of Christian charity, which the Gospels rightly placed in the very foreground of morality, were not first discovered by Christ, but they were successfully urged by Him and His followers at a time when refined selfishness threatened the Roman civilization with decay. These natural principles of sympathy and altruism had arisen thousands of years before in human society, and are even found among all the higher animals that live a social life. They have their first roots in the sexual reproduction of the lower animals, the sexual love, and the care of the young, on which the maintenance of a species depends."

In a later chapter, expressly devoted to "Morality," the author sums up all that monistic or materialistic science can teach, or has thus far taught, as to the origin and development of ethics in the following series of propositions: We reproduce them in their order, but for the detailed demonstration of them we must refer the reader to the book itself. Starting with the beginning of organic existence, Haeckel points out that by adaptation to different conditions of life the simple plasm of the earliest organisms, the archigonous monera, undergoes certain modifications. As the living plasm reacts on these influences, and the reaction is often repeated, a habit is formed. This habit is hereditary, the repeated impressions being fixed in the nucleus in the case of the unicellulars. When hereditary transmission lasts through many generations and is strengthened by cumulative adaptation it becomes an instinct. Even in the protist caenobia (the cell communities of the protophyta and protozoa) social instincts

are formed by association of cells. The antithesis of the individual and social instincts, or of egoism and altruism, increases in the animal kingdom in proportion to the development of psychic activity and social life. In the higher social animals definite customs arise in this way, and these become rights and duties when obedience to them is demanded by the society (herd, flock, tribe, people) and the breach of them punished. Savage races at the lowest stage of human development, the stage which knows not religion, are not differently related to their customs than are the higher social animals. The higher savages, however, develop religious ideals, combine their superstitious practices (fetichism and animism) with ethical principles and transform their empirical moral laws into religious commands. Among barbaric, and more particularly among nearly civilized, races definite moral laws are formed by the association of hereditary religious, moral and legal ideas. In the civilized races the Church formulates the religious commands, and jurisprudence the legal commands, in more definitely binding forms; the advancing mind remains, however, subservient in many respects to Church and State. Ultimately, in the higher civilized nations pure reason gains more and more influence on practical life and thrusts back the authority of tradition; on the basis of biological knowledge a rational or monistic ethic is developed.

After the years of life spend their forces created in the beginning of his existence, man thinks perhaps, as senility approaches, that he is "losing ground" physically and nervously. He could not lose much mentally under any circumstances, there is very little margin in that direction. Indifference towards everything; no energy, hollowness of life promise; brutality of God or Nature, or the law of things—motion! motion! motion! —no feeling but that of irritation for or towards whoever maintains that Free-Will exists—the foolwriters on the subject in the daily press; the treachery of the Creator revealed in the organic land, and briefly, beautifully and pathetically illustrated by the fable of Eden; high ideals unattainable—all these become reality to him. Nature allows the forming of an, or *the* ideal and thein most ingeniously, and with evident plan obstructs the path and paralyses the effort. No calm observer, it would seem, would deny this.

The multimillionaire, the great orator, the great miser, the great spendthrift, the great philanthropist, the great criminal, the great soldier, the great thinker, are now products —they are results of accidental conjunctions as individuals; though types may be deemed products of persistent limitations. I do not not see how this can be successfully denied; and until it can be successfully denied it must be admitted that there is no Free-will.

As Haeckel points out: "Prominent teachers of the Christian Church, like the father of the Church, Augustine and the reformer Calvin, denied the freedom of the will, as precisely, as the best known leaders of pure materialism like Holbach in the eighteenth and Büchner in the nineteenth century" (Welträthsel, p. 55, close of chapter vii).

When to Bleed.—Sewall considers the disappearance of the second cardiac sound at the apex a distinct indication for phlebeotomy.

Nervous Dyspepsia of Old Age.—Charcot and Loomis recommend preparations of zinc, arsenic and phosphorus; also "a little wine for the stomach's sake."

Lupus Erythematosus. — Hollander's method of treating lupus erythematosus (Critic and Guide), consists in the administration of large doses of quinin and the application of tincture of iodin to the lesions. The results are said to be very satisfactory.

Xerostoma.—Anders directs to treat dry mouth by attention to systemic disease or debility, and by small doses of potassium iodid and pilocarpin (gr. 1-20) in gelation lamellae or in lozenge form, allowed to dissolve in the mouth with the aid of a sip of water. The galvanic current should be tried in cases of obscure or centric origin.

Quinin in Pneumonia.—A. S. v. Mansfelde, Ashland, Neb. (Jour. A. M. A., March 17), calls attention to the recommendation of the use of large doses of quinin in croupous pneumonia by Prof. Theodore Juergenson in v. Ziemssen's "Cyclopedia of the Practice of Medicine," vol. v, p. 165, and says that he has used just this treatment for the past thirty years. In this connection, he remarks that Dr. Galbraith's publication "demonstrates that nihilism in the use of individual drugs simply means lack of knowledge of their proper uses, with the consequent reliance on proprietary mixtures, which only too often are void of substance and consequently of action." Is it not a pity, he asks, that such masterly works as Ziemssen's Cyclopedia are so much ignored at the present day?

RUPTURE OF THE UTERUS.*

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THE accident, though it is not met with very often, is one of the most serious with which the obstetrician comes in contact. It usually occurs during labor, although there may be a spontaneous rupture during pregnancy. A spontaneous rupture may be caused by rudimentary uterus, or some malformation, or may be due to a weakening of the uterine wall from some previous surgical operation, or faulty hypertrophy of uterine tissue. For this form of rupture suffice to say that the rupture nearly always occurs in the upper part of the uterus, usually near the fundus. Rupture of the uterus during labor is not met with so often, but when it does occur it is a most serious complication. The child is nearly always lost and often the mother.

The causes of uterine rupture are many. The peculiar arrangements of the uterine muscular tissue adds to the cause. The lower portion or neck forms a contracting ring. The upper part or fundus by its contraction serves to expel the child. This contraction must be sufficient to expand or dilate this contracting outlet over the presenting part of the child, and any obstacle or pathological condition that prevents the dilatation and passage of the child stimulates the fundus to more forcible contraction, which may cause thinning and stretching, and finally rupture. As further causes may be named, transverse presentation, pelvic deformities, very large fetus, injudicious use of ergot, weakening of the uterine walls by too frequent child-bearing, malpositions of uterus, unskillful manipulation during version and forceps operation, or other mechanical injury and inflammatory changes in uterine tissue.

The lower segments of uterus are most liable to rupture during labor. If very near the cervix the rent is transverse, if higher up may be oblique or lengthwise.

The general cause for rupture in different places is stretching of the uterine wall over some protruding angular part, as the head, breech, knee or elbow.

Ruptures may be partial or complete. If partial the uterine muscular wall is ruptured, but not the peritoneal covering. In a complete rupture the entire covering of uterus with the uterine tissue is ruptured and the contents of uterus is discharged, wholly or partially into the peritoneal cavity. These ruptures may not follow the course given, but may be irregular and involve the entire cervix and extend into the vagina.

The symptoms of rupture of uterus vary considerably, although rupture may occur suddenly and without warning, there are generally some premonitory symptoms, that point to a serious condition. Some of the causes which have been assigned given are indicative of impending danger. The contraction of womb may be tremendous with no descent the round ligaments become tense and may be felt, the vagina tense and apparently elongated and narrow. When there is an actual rupture, the typical symptoms are: suddenly at the height of a strong uterine contraction, there is a sharp lancinating pain in the hypogastric region, with some interrogation or exclamation by the patient, a noise caused by giving away of tissue may be audible to those near, suddenly and simultaneous there is absolute cessation of uterine contraction, and with this there is at once marked relief feeling of the flow of blood externally or internally. Hemorrhage may be very severe or light, or may be internally and concealed. Shortly after the occurrence of rupture there is violent shock and collapse, as indicated by pallor, pulse loose tone, frequent and feeble, cold extremities, hurried, shallow respiration, gasping, pupils dilated, disturbance of vision, vomiting, dizziness, fainting and chilliness. There may be copious sweating and the patient pass into unconsciousness. Diagnosis of those cases which occur gradually and are incomplete may be very difficult, but in the sudden variety, if they occur under your observation the diagnosis is very easy, and once having been seen is easily recognized and never forgotten.

On vaginal examination the presenting part has gone or materially changed, the rent may be found. There is lack of tone to the parts and great sensitiveness.

On inspection and palpation, the contour of abdomen is not regular as before. The parts are relaxed, and the physician may be able to palpate a knee, elbow, head or breech, protruding into peritoneal cavity, the uterus may be recognized separate from child.

The prognosis as to the child is almost always fatal. Yet under certain favorable condition the child might be saved. For the mother the prognosis is much better. The first eminent danger is from hemorrhage, which may occur at once or within a few hours, or it may be delayed for one or two days.

The second danger, and by no means trivial, is infection. In this the prognosis depends on the kind of infection, the condition of patient, the situation of rupture, and surroundings of patient, but even under the best con-

*Read at the February meeting of the Medical Club of Jacksonville.

ditions obtainable, the mortality of the cases reported is very great, being from 30 to 50%, and no doubt there are many cases never reported that would make the percentage much greater.

With this paper I wish to report two cases of uterine rupture that occurred within a period of ten years practice in an experience of 520 obstetrical cases.

Case I.—Mrs. R., age 30; height 5 feet 4 inches; weight 110 pounds; German, three children, last child two years old. Previous pregnancies and labors normal. History of this pregnancy normal. Labor began at full term on Wednesday. Dr. A. was called. As soon as the os began to dilate hemorrhage began and increased with dilatation. There was a palcenta previa with central implantation. Nothing was done for this condition. The pains were normal, but the hemorrhage continued severe. Early Thursday morning the placenta passed the cervix and was removed from the vagina. There was a cross presentation with left arm down and out, firm contraction, with the shoulder impacted in pelvis. Dr. Z. was called in consultation on Thursday, but nothing accomplished, and the case was given up to die. On reaching the case early Friday morning I found woman in collapse, pupils dilated, could not talk or understand; extremities cold, and pulse very feeble. No hemorrhage; no pain. Patient was completely relaxed, and did not complain of pain or sensation. Blood from previous hemorrhage had passed through a feather bed and mattress and run across the room. I pushed the shoulder up and out of pelvis, replaced the arm and turned child by bipolar version. I then grasped both feet and extracted the child by force, there being no help on part of woman. No hemorrhage followed. In examining the vagina found a piece of muscular tissue three inches long and one inch wide, hanging by a pedicle, and finding no pulsation in it, I clipped it off. Only a little capillary hemorrhage followed. This proved to be a section of the the os with about two inches of uterine wall. There was a transverse rupture of anterior portion extending into vagina. The woman rallied slightly from the shock, but died ten hours later.

Case II.—Mrs. B.; height 5 feet 5 inches; weight 150; age 35. Six children. Family history good, surroundings good. Previous labor normal. Was unexpectedly called into case. Labor had been in progress four hours. On inspection I found child with long diameter at right angles to body of mother, head to left. Pains normal and about five minutes apart. In vaginal examination found bag of water had ruptured. The parts were relaxed, and the os fully dilated, and the child's right hand was presenting at external genitals. With shoulder impacted in pelvis, and the child was alive. Chloroform was at once administered until all muscles were relaxed. The hand and arm was replaced, the shoulder disengaged from pelvis and child turned by bipolar version until the head was presenting O. R. A. The head was flexed and held in position until the womb contracted and held it so. Labor continued and the pains grew stronger and position of child was good. The head was entering superior strait of pelvis, and the pains were very hard and becoming expulsive. About two hours after turning the child, during an exceedingly strong pain. Apparently something gave way and the woman suddenly relaxed and exclaimed: "something broke. There is something flowing." On examination I found about one quart fresh blood in the bed. Head still in superior strait, but loose. Woman showed great exhaustion and collapse. There was no signs of muscular contraction. An angular protuberance appeared between umbilicus and pubes, apparently an elbow. I suspected rupture, and consultation was summoned, and the diagnosis confirmed. Forceps were applied and child delivered two hours after rupture. There was no sign of uterine contraction or aid from women in delivering. The child weighed twelve pounds and was dead. There was no signs of life in the child after the rupture. The placenta followed the child. There was no more hemorrhage and womb immediately contracted as in normal labor. The woman was carefully cared for and soon recovered from shock. Ten hours later the womb was irrigated with $HgCl_2$ solution 1-5000 with a return flow syringe in order that the uterus might not be disturbed. There was a mild infection following in this case, involving a part of peritoneum, especially the lower part in the pelvis. Paralysis of bladder followed lasting three weeks. All symptoms improved, and the patient finally regained her former health. Six years have elapsed, but there has been no subsequent pregnancy.

Vertigo from Brain Tumors.—Peterson employs antipyrin, cannabis indica, morphin; potassium iodid, mercury or mixed treatment for syphilitic growths.

In the presence of a breast infection that fails to heal within a reasonable time after appropriate incision and dressings, it is well to think of local tuberculosis.

FEVER; WHAT IT IS, AND THE INDICATIONS FOR TREATMENT.*

C. A. BOICE, M. D.

WASHINGTON, IOWA.

THE advertising pages, and frequently the reading pages, of practically all of our medical periodicals are replete with advertisements and laudatory notices of some old drug in a new dress. The change in name has apparently endowed it with wonderful powers. The name is high sounding, easily remembered and frequently meaningless.

This or that drug is recommended for fever, no attention whatever is given to the cause of the fever or to the condition of the patient. We are instructed to give this remedy, the fever will be immediately reduced, the heart will not be depressed(?), and all will be well with the patient. Will it?

We must draw one of two conclusions from such manner of treatment. Either that fever is a disease per se, and to be so treated; or that there are many, very many medical men who are willing to take any advertiser's word as their law of procedure and treat accordingly. Such men may be doctors, but they are not physicians.

There is certainly a call for such drugs else so much money would not be spent in exploiting them. Practicing medicine along such lines is a good thing for the pharmacist, a poor condition for the doctor and a very bad condition for the patient. It is like the blind leading the blind, and the patient falls into the ditch.

Is fever a disease per se and to be so treated, or is it only a symptom of some other disease? If only a symptom should it be treated empirically? If we may, let us learn what fever is before we treat it.

Gould defines fever as a "systemic disease, or a symptom of disease whose distinctive characteristic is elevation of temperature, accompanied also by quickened circulation, increased katabolism and disturbed secretions."

Aronsohn defines fever as a "result of morbidly exaggerated stimulation or irritation of the heat centres." What stimulates or irritates them?

Bergel says that the febrile phenomena are not the consequences of the high temperature, but are the direct results of the infective processes.

Fevers have been divided into idiopathic and symptomatic. Idiopathic fever is one whose cause has escaped detection, but because it has not been detected does not prove that it may not be found out. To my mind, the word idiopathic is one of the most unfortunate in our vocabulary. It is such a nice sounding word with which to salve our consciences when we cannot, or are too lazy to make a correct diagnosis. The more we know of morbid physiology the less use we have for such nondescript words. For the purposes of this paper, fever as a symptom only will be considered. Is it scientific or rational to treat the fever without reference to the cause? The most important thing to remember is that we are not treating a disease, but a patient with an ailment.

High temperature is the outward expression of disordered katabolism, rarely should it be treated by direct action, more rarely by direct depressants. We are entirely too careless in regard to applied therapeutics. The trouble is largely with medical colleges. Rare is the college which gives therapeutics a prominent place. Most of them assign to it a very inferior position; some almost entirely ignore it as a branch of medical science. Surgery and obstetrics are so much more spectacular, but are they so practical for every day practice?

The causes of fever may be toxic conditions, infective processes, gastro-intestinal disturbances, heat stroke or purely nervous. The physiology of fever is increased production and elimination of carbon monoxide, increased action of the skin and increased elimination of nitrogen, and disappearance of glycogen from the liver.

High temperature is the result of an attempt on the part of the system to throw off the disturbing factor. There is an increased leucocytosis. Why not help, instead of hinder?

Fever is probably the most valuable guide we have to the severity and progression of the morbid state, and when we unnecessarily depress the hyperpyrexia, we lose sight of our index. The indiscriminate prescribing of the much vaunted antipyretics is to be deplored. Medicine is not a fixed science, and never will be as long as such methods are followed.

It is frequently necessary to prescribe medicines before a positive diagnosis is made, but the case is not rendered any clearer by depression.

Of the various febrifuges the coal tar derivatives are the most popular. Acetanilid, antipyrin, antifebrin and other antis ad nauseum. They reduce fever by direct action on the heat centre, but they do not stop there. They do not in any manner remove the cause of the fever. They stop nitrogenous waste only while their effect lasts. They depress the heart and general nervous sensibility. Con-

* Read before the second annual meeting of the physicians of the First Councillor District of Iowa at Fairfield, Ia., January 26, 1906.

tined or large doses are serious heart depressants. They are seldom indicated, rarely useful and frequently harmful. Their chief advantage seems to be that they permit the patient to die with a normal temperature. It calls to mind a story of the times when bleeding was the panacea for all ills. A child was freely bled for some slight indisposition and death resulted. The mother was comforted with the advice that her child had died cured anyway. Many such brilliant results have followed the use of coal tars.

Alcohol and aconite owe their antipyretic action to their property of causing vasomotor dilatation and permitting increased radiation of heat. They require very careful watching and frequently leave the patient in a worse shape than before using. Alcohol lessens leucocytosis, checks all elimination and disturbs proteid metabolism. Aconite is a powerful cardiac, respiratory and circulatory depressant. It should not be given in typhoid and other asthenic conditions.

Quinine acts as a febrifuge in doses of twenty or thirty grains by retarding oxidation, and thus preventing heat production. It does not act on the cause of the fever unless it be malarial. Quinine also stops nitrogenous waste only while its effect lasts.

Stevens says that "Antipyretics are only indicated when the fever is high enough to be in itself a source of danger. They are all more or less depressing."

Cold sponging has a tonic and stimulant effect; it promotes formation of leucocytes and assists in overcoming the infection; it quiets nervous excitability, soothes the patient, lessens delirium; restores circulatory equilibrium and promotes rest and sleep.

If the hyperpyrexia is caused by typhoid or other intestinal putrefaction and its resultant autointoxication, clean all infective material out of the alimentary canal and keep it clean, and there will be very little use for antipyretics. If the hyperpyrexia is from retained pus (be it appendical, mastoid, empyema or what not) drain out the pus, sustain the patient and the fever will take care of itself.

The rational treatment of feverish conditions has well been summed up by Dr. I. N. Love:

1. Prompt, potent purgation.
2. Effective action of all eliminating organs.
3. Intelligent nutrition.
4. High temperature and nervousness best controlled by cold sponging and rectal flushing.
5. Rest.

"Study disease not less, but man more"

Salix nigra and saw palmetto will cure many cases of spermatorrhea.

Dr. Phillips praises bryonia in hepatic dyspepsia, with bilious headache and vomiting.

Dr. Tuffier concludes that beyond the age of 50, all acute intestinal obstruction is due to cancer.

Dr. Rouget says that inhalations of amyl nitrite will relieve hemoptysis when other agents fail.

Beale recommends rest, starvation, tea or coffee, acids, warmth and counter-irritation for migraine.

A curious case of ptyalism.—In one of Shali's cases increased salivation persisted for six months after a single dose of calomel.

Friedrich's Ataxia.—A. H. Dodge, Philadelphia (Jour. A. M. A., March 17), reports a case of Friedriech's ataxia with nearly all the typical symptoms except the familiar feature. This, however, is not remarkable as sporadic cases are not rare. The patient's father was an alcoholic. In commenting on the case, Dr. J. H. Lloyd, in whose service the case occurred, speaks of the comparative ease of diagnosis of the condition, and mentions a type of congenital ataxia paraplegia occurring in children, with some spasticity, increased knee jerks and speech disorders, with or without nystagmus. This is sometimes seen in children who have suffered injuries at birth and is then of course in no sense hereditary or familiar.

The Bloodless Phlebotomist.—The April issue of The Bloodless Phlebotomist contains a grist of interesting original matter, which will appeal to medical men. Among the leading articles are: Proprietary Remedies from the Physician's Standpoint, by W. J. Robinson, Ph.G., M.D., of New York; The Lesson of the Yellow Fever Epidemic, by Daniel Lewis, M.D., LL.D., of New York; Delirium Tremens, by T. D. Crothers, M.D., of Hartford; The Alkaloidal Treatment of Pneumonia, by W. C. Abbott, M.D., of Chicago; Otitis Externa Circumscripta, by Prof. James A. Campbell, M.D., of St. Louis. The Bloodless Phlebotomist occupies a unique position in journalism. It is original, liberal and exceptional. There is no other journal like it. It is not wedded to one idea, nor is it hidebound nor prejudiced. It says what it means and means what it says. The Bloodless Phlebotomist circulates 208,000 copies each issue, reaching practically every English speaking physician on the globe. It is a journal worth cultivating.

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A NEW PROCEDURE IN TENDON AND MUSCLE TRANSPLANTATION APPLIED IN A CASE OF INFANTILE CEREBRAL PALSY.

DRS. PHIL HOFFMANN AND SIDNEY I. SCHWAB.

ST. LOUIS.

Read before the Medical Society of City Hospital Alumni, St. Louis, February 1, 1906.

DR. HOFFMANN.—In presenting this case I shall limit my remarks to its orthopedic aspect, leaving the neurologic side to Dr. Schwab, with whom I have been associated in its care. The patient, a boy of seventeen, was afflicted with a left hemiplegia of cerebral origin, dating from a few days after birth. He had entire loss of power in the flexors of the hand and wrist, and barely enough in the extensors to extend the fingers, but not the wrist. The little extensor power present offered no possible chance of success from the ordinary method of tendon transplantation, i.e., attaching the tendons of the paralyzed muscles to contiguous healthy ones in the same segment of the limb. The extensor muscles were so weak that it was useless to try to divide their power with the flexors. There was, however, fair power in the flexors and extensors of the elbow. The boy had never used his hand, and there was no possibility of injuring its function by any procedure, as the hand could not have been worse functionally. The thought occurred that possibly we might draw upon the intact upper arm for power with which to supply the paralyzed segment below. The first thought was to cut away the biceps from its insertion into the radius and insert it directly into the central ends of the deep and superficial flexors of the fingers. This idea was abandoned because the great bulk of the muscle bellies of the finger flexors would afford but a poor medium through which the biceps could exert a pull upon the fingers, and because the dissection necessary to detach the origins of the superficial and deep flexors from the humerus, radius and ulna would result in such extensive scar formation as to probably altogether prevent transmission of the biceps' pull. A method offering better assurance of success was finally devised. This was to interpose the palmaris longus and flexor carpi radialis between the source of power and the point of its application. These muscles are superficial, and being long and slender, approximating a tendon in shape, offered a good medium through which to transmit the biceps' pull. They being paralyzed, were used simply as passive structures to connect the tendon of the biceps, where it crossed the elbow, with the tendons of the finger flexors, where they crossed the wrist. After the biceps tendon had been detached from its insertion at the radius, it was sewed into a longitudinal slit in the bellies of the flexor carpi radialis and palmaris longus, which had been previously detached from their common origin at the inner condyle of the humerus. Next, the tendons of the flexor carpi radialis and palmaris longus were cut from their insertions at the wrist and sewed, en masse, to the tendons of the deep and superficial finger flexors, including the long thumb flexor. Now, the biceps in contracting pulls primarily on the flexor carpi radialis and palmaris longus, and secondarily, through them, on the tendons of the flexors sublimis and profundus digitorum and flexor longus pollicis. The operation was performed at the Jewish Hospital, September 1, 1905, and the splint removed November 10. No sign of flexor function was observed until November 26. Since then there has been gradual improvement. He is now able to grasp a fork or spoon and carry it to his mouth; and can lift a five-pound flat-iron and hold it for thirty or forty seconds. In order to prevent the biceps from also flexing the elbow when it is flexing the fingers, he must synchronously contract his triceps. None of the fingers have independent movement but all, including the thumb, are flexed together. Having no power in his wrist extensors, and the finger extensors being too weak to extend the wrist by a continuance of their action, he must wear a splint to hold the wrist in the extended position, so that his new finger flexors can act to good advantage. He will later be relieved of the necessity of wearing the splint by an oper-

ation to anchylose the wrist in the extended position, a so-called arthrodesis.

Dr. Hoffmann then exhibited the patient.

Dr. Schwab.—My interest in this case is chiefly concerned with the pleasure I have had in working with the orthopedist. There are several points in connection with this case that are of importance. It is one of infantile cerebral palsy in which the mentality is almost normal. In the greater number of these cases there is some mental involvement, but in a certain small percentage there is no apparent mental defect. In such cases the presence of a physical deformity will necessarily tend to interfere with the patient's success in life, and we are, therefore, moved to greater efforts to aid in the removal or betterment of this deformity. Therapeutic measures in the usual acceptance of the term, such as strychnine, electricity, etc., are of no avail, and dependence upon them alone is nothing short of a therapeutic crime. If this patient, some years ago, had been placed under the care of an orthopedist who understood fully the mechanics of the arm and had been willing to make use of that knowledge, the results might have been much more gratifying than is the case now. The sad feature of the case is that the boy has been allowed to reach nineteen years of age without the attempt being made to afford him any logical sort of relief. The boy is sufficiently bright, but any position that he may apply for he will have to overcome a prejudice created by his deformity. He is able to write fairly well and has received a good enough education, but in spite of this any chance of advancement is practically denied to him. An attempt should be made in this class of cases first to correct deformity and then to restore function. If by any chance the two together can be obtained a most gratifying result will follow. The results in tendon work which Dr. Hoffmann has done in cases we have seen together have been on the whole encouraging, and we have felt that even in this apparently hopeless case an attempt was justified. The great trouble that we have found is that cases hopeful in the beginning for surgical interference are kept under treatment for years and years until the plastic period of youth or childhood is passed, and then it is frequently too late to obtain the best results. An example of this sort of therapy is the common custom of treating spastic types of paralysis with electricity, attempting apparently to increase the muscle tone in an already hypertonic muscle. There is one thing that can be positively asserted, and that is, that when such a condition exists, as in the present case, there is only one logical method of treatment, and that is surgical-orthopedic interference. The sooner this is understood the better the results are bound to be. In this case the result does not appear to be unusually brilliant. The patient still has his deformity and the restoration of function has been slight, comparatively speaking. The grasp of the hand has been in a measure restored. This case, however, may be taken as an example of the way we should go and the method of attacking the problem. The thing is to get these cases early before joint changes have taken place and before the atrophy and succeeding contractures of the muscles have produced a deformity too exaggerated for easy correction. In a case of anterior poliomyelitis, if in a year a full restoration of function is not obtained, then it is the duty of the physician to call an orthopedist to consider the advisability of surgical interference. In the very old cases it is uphill work to get good results. Spiller, Frazier and Taylor have in this country worked out the nervous-surgical aspects of these cases, and they and others have obtained good results by tendon-muscle nerve transplantation and suture. Dr. Schwab, in closing, insisted that great care be taken in making the differential diagnosis. Oppenheim last year had called attention to cases of progressive muscular atrophy which had been operated upon with the idea that anterior poliomyelitis was present, of course no improvement had taken place. It was absolutely necessary in all these cases that a differential diagnosis be made, and in some cases this might be a hard task and at times impossible.

DISCUSSION.

Dr. Norvelle Wallace Sharpe thought the results were quite encouraging, for the boy was, certainly, a great gainer by what had been done. It was, as Dr. Schwab had said, an object lesson for all of us. The profession was derelict in this class of cases; as an example he mentioned a colleague who had himself had a congenital deformity. Some years ago Dr. Sharpe had tried to induce this gentleman to have something done by tendon or nerve transplantation, but found that he was strongly opposed to such treatment, at least for his individual case; and Dr. Sharpe believed that this man's view-point was the result of his training in college years ago and the additional fact that the profession as a whole, fails to realize the actual possibilities, for this unfortunate class, by an intelligent intervention. It seemed, too, almost a crime to fill these patients with the conventional therapeutics of the neurologist. He wondered if something might not be done in

developing this boy's extensor power by transplantation.

Dr. A. E. Taussig said that the comparative weakness of the fingers might be due to the weakness of the biceps, the young man not having been trained to use the biceps, if so, an increased finger function might be expected as a result of education of that muscle.

Dr. Francis Reder mentioned an experience of his which had occurred some ten years ago. A patient was brought to him, a lad of some fifteen years, who stumbled frequently while walking. The boy was found to have suffered from infantile paralysis when three years old, the muscles affected being the anterior set of muscles of the leg. It occurred to him that some good might result by slicing off a piece of the tendo Achilles and attaching it to the tendon of the tibialis anticus. Inexperienced as he was at that time in this work the result was reasonably satisfactory, and in six months the boy was able to walk without falling. The result was most gratifying to those interested in the boy. He wished to know what experience Dr. Hoffman had had with the extensor muscles of the leg, and would he not feel more encouraged as to a successful outcome to perform a tendon transplantation upon the leg than upon one of the upper extremities?

Dr. Hoffmann, in closing, said that operations upon the lower extremity were as a rule more successful, because in the upper extremity there was required a finer adjustment of the muscle balance. In the lower extremity, when one supplied the ability to lift the foot, a great deal was accomplished, as the main functions of the lower extremity were to bear the weight and clear the ground in a satisfactory manner. In the upper extremity the function required much more intricate muscle co-ordination. Replying to Dr. Taussig's remarks, Dr. Hoffman said that in the biceps in his case, the power was perhaps 50 per cent of the normal. This was enough, if it could be transmitted without any interference at all, to give a good grasp. But it also required training, and this would probably accomplish a good deal. The patient had already learned to use a fork and could bring it to his mouth. He could exert quite a pull temporarily, but not for a long time, so it appeared that training ought to do much for the boy. As to tendon transplantation, there was danger of it falling into disrepute because in many cases it had not been a success on account of the operation being done without due consideration of what power remained in the limb, and how best to redistribute it. In order to obtain success it must first be determined what power remained, and how that power could best be transferred to the point desired. In this case, the boy had the main function of the hand, the power to grasp. In the operation the pronator radii teres and the pronator quadratus were divided because they were short and held the forearm in strong pronation.

Dr. Schwab, in closing, insisted upon the care to be taken in a differential diagnosis. Oppenheim last year had called attention to cases of muscular atrophy operated upon by orthopedists. Of course no improvement had taken place. If the cases of anterior poliomyelitis were seen by the orthopedist early enough there was room for all sorts of manipulative interference. From the standpoint of the neurologist it was absolutely necessary that he be able to exclude progressive muscular atrophy, and this, from the neurologist's standpoint, was sometimes a very difficult thing to do. But in all cases the diagnosis between the spinal and the cerebral types of paralysis must be made.

Dr. Hoffmann said that this was undoubtedly a case of the cerebral type and had at one time been spastic, but the condition of the boy when they got hold of him was such that there was no spasticity of the flexors, which had degenerated and were flaccid.

MYOMA OF THE UTERUS.—

℞ Ext. mammae siccati..... 3 ij

Ft. in capsulae No. xxiv Sig. One to four capsules t. i. d.—Ex.

CURE FOR THE WHISKY HABIT.—It is claimed that a person cannot take the following and drink whisky at the same time, i. e., it will cure the whisky habit if a patient will use it.

℞ Apomorphine ..... gr. ij
Strychnine..... gr. ss
Fowler's solution..... ʒ ss
Tinct. cinchona comp., q.s.ad. ʒ ij

M. Sig. One teaspoonful every three hours.—Burnett, Med. Summary.

DIET IN DIABETES.—Osler says: Reduce starches and sugars to a minimum—gluten bread or a few ounces of ordinary bread daily. Avoid alcoholic liquors and restrict diet gradually to nitrogenous and hydrocarbon foods, cutting off one thing after another. Saccharin, glycerin or levulose may be used in place of ordinary sugar. A more liberal regimen may gradually be allowed within a month or two.—Denver Med. Times.

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EDITORIAL

Rupture of the Uterus.

WE print in this issue a paper on the above subject in which two cases are reported by the author as occurring in his own obstetrical experience of less than 600 cases. The fact that any practitioner, wherever located, may have such experiences leads us to call attention to it. In 1875 Bandl called attention to the fact that rupture was usually due to two principal causes: First, there is some malposition of the child, which interferes with its descent and at the same time furnishes angular parts of the child against the uterine wall. Second, in such cases the lower segment of the uterus becomes overdistended in Nature's effort to overcome the obstacle, and the wall becomes correspondingly thinner until the wall is ruptured by the angular prominence.

A second, and much rarer cause of this accident, is the presence of projecting prominences from the pelvic bones which tear the uterine wall as the descent of the child forces it out against them or pelvic tumors which obstruct the passage and lead to overdistension of the lower segment by undue uterine contractions. Ruptures rarely occur above the "contraction ring," because that part of the uterus is in active contraction, and is much thicker than the lower segment. There is great difference of opinion among authorities as to the frequency of this accident. Some place the ratio as low as 1 in 1200 cases, while others say 1 in 5000 cases. It is so infrequent that it makes little difference to the average practitioner. He is likely to only meet one or two, at most, in a lifetime practice.

The treatment of such an accident requires the greatest care and expedition on the part of those in attendance. Two lives are at stake, and no time should be lost in executing well-directed and positive measures. The measures selected will depend upon the cause, location and extent of the laceration. Such ruptures are said to be "complete" or "incomplete," that is, whether they pass entirely through the uterine wall, including the peritoneum, or whether the peritoneum is only stripped up and not lacerated. Also they may be classified as to whether or not any or all parts of the child are entruded into the peritoneal cavity. The object of treatment must be the immediate delivery of the child. This will usually be accomplished by forceps, by version, by embryotomy or laparotomy. In only about 10 per cent of the cases is the child saved. In complete ruptures the life of the mother is saved in only one-fifth of the cases, which go without treatment and in less than fifty per cent of the cases which receive the most prompt and efficient treatment. In incomplete ruptures the prognosis is more favorable, athough even in these the mortality is high. C.E.B.

THE UROLOGICAL SOCIETY.—At a meeting held at the Blue Grass Hotel, St. Louis, on Friday evening, March 16, a society to be known as the St. Louis Urological Society was formed. The first contribution was a paper by Dr. Bransford Lewis, which was followed by an interesting discussion participated in by all members. Dr. Bransford Lewis was elected president, and Dr. E. A. Scharff secretary-treasurer, by the following named gentlemen, who constitute the charter members: Drs. J. L. Boehm, C. E. Burford, T. A. Hopkins, H. Jacobson, Bransford Lewis, G. M. Phillips, A. R. Ravold, Wm. Robertson, E. A. Scharff, H. J. Scherck, O. L. Suggett, A. S. Wolf.

IODINE AS AN ANTISEPTIC.—Nicholas Senn, professor of surgery in Rush Medical College, Chicago, concludes a scholarly study of iodine in surgery, with special reference to its use as an antiseptic, with the following summary: 1. Iodine is the safest and most potent of all known antiseptics. 2. Iodine in proper dilution to serve its purposes as an antiseptic does not damage the tissues; on the contrary, it acts the part of a useful tissue stimulant, producing an active phagocytosis, a process so desirable in the treatment of acute and chronic inflammatory affections. 3. In the treatment of simple hyperplastic goiter actinomycosis and blastomycosis, the local use of iodine is made more effective by cataphoresis.—Ex.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

THE DOCTOR'S RECREATION SERIES. Vol. IV. A Book About Doctors. By John Cordy Jeaffreson, Author of "The Real Lord Byron," "The Real Schelly," "A Book About Lawyers." etc.,etc. Fourth of series of twelve volumes compiled for the amusement, rest and relaxation of medical men. Akron, Ohio: The Saalfield Publishing Co. (Price, Silk-Cloth, per vol. $2,50, Half-Morocco, per vol. $4.00. By Subscription Only.)

It is indeed fortunate that this interesting and valuable contribution to the literature embracing history and tradition has been incorporated in this series and placed at the command of American readers. Mr. Jeaffreson's Book About Doctors, beyond any other of his numerous works, made his reputation in literature in Britain, it was his greatest success. American readers will find it of intense interest from cover to cover. Though largely historical, dealing principally with characters of the seventeenth and eighteenth centuries, it seems to picture present conditions and characteristics and depict them immutable of the medical person, even though the armamentarium is vastly enlarged and changed with the years. The book is quite the equal in point of literary worth and vital interest of its fellows in the very attractive series.

"INDIVIDUALISM VERSUS SOCIALISM."—Any expectation of sensationalism in William Jennings Bryan's discussion of "Individualism versus Socialism" in the April Century is likely to be unfulfilled. The paper, it is said, is a succinct presentation of the claims and objects of individualism and socialism, which Mr. Bryan defines as tendencies rather than concrete systems. Mr. Bryan also urges that there should be no unfriendliness between the honest individualist and the honest socialist, since both are seeking that which they believe to be best for society; and he points out how the one may greatly aid the other in the common aim of both, the harmonious development of the human race, physically, mentally and morally. But he holds that the socialist is inclined to support monopoly, believing that it leads to government ownership of monopolistic industry; whereas individualists contend against consolidation of industries and "stand for a morality and for a system of ethics which they are willing to measure against the ethics and morality of socialism."

INFLUENZAL VERTIGO.—Stewart directs to keep patient recumbent, and give tonics and nutrients with moderate doses of alcohol during the later stages.

REPORTS ON PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

SURGERY.

JOHN McHALE DEAN, M. D.

Common Duct Cholelithiasis.—In Journal of Surgery, Gynecology and Obstetrics, W. Mayo Robson discusses the subject of common duct cholelithiasis. Many new and interesting points are brought out by the author. The author finds the occurrence of stone in the common duct in 40 per cent of his cases. The symptoms of common duct stone are repeated "spasms" and jaundice. The jaundice is not as deep as we find in cancer of the pancreas or common duct, and is more intermitting. This changeable jaundice is caused by the movable stone in the duct acting on the principle of a ball valve. The author claims all cases of cholelithiasis are accompanied by more or less inflammation, and we frequently find as a result adhesions. The obstruction of the duct is seldom complete, and in consequence distension of the gall bladder is not always present, as we would suppose from backward pressure of bile. The muscular coat of the gall bladder contracts in an effort to expel the stones. This contraction continues until atrophy of the gall bladder ensues. The author claims that the differential diagnosis of common duct stone and cancer of the head of pancreas is not always an easy task. By some elaborate chemical examination of the urine brought out by Dr. Cammidge certain acicular, sharp edged crystals arranged in rosettes are found. If these dissolve in dilute sulphuric acid in 30 to 40 seconds impacted stone or pancreatitis diagnosis is made. If these crystals are thick and rounded and dissolve in sulphuric acid in 1 to 5 minutes cancer of the pancreas is the diagnosis. It is lamentable that the author did not in his valuable article describe this elaborate chemical process to enable others in using it in making a diagnosis. The author mentions twenty-eight different conditions that may threaten the life of a patient suffering with common duct stone. The operation is rendered easier if with a longitudinal incision the liver is turned upwards and outwards. In this rotation of the liver we bring into view the common duct and the duodenum and an otherwise difficult and deep operation is rendered more superficial and easier in execution. Drainage of the common duct by a rubber tube fastened by catgut suture in situ is used by the author, together with drainage of the kidney pouch.

In other cases the incised duct is sutured with catgut and the gall bladder drained. Drainage is life-saving and very imperative in cases accompanied by much inflammation. The author further adds that when streptococci are found in the bile either in the gall bladder or ducts an unfavorable prognosis should be made. The author reports 76 choledochotomies with three deaths. The first from pyemia, the second from septicemia and the third from cholemia. The latter case as well as the second the author states if drainage was rigidly established the results might have been better.

New Technic for Breast Amputation.—In Jour. A. M.A. Jabez Jackson describes the quadrilateral flap operation originated by himself in amputation of the breast. The skin incision is begun at a point about one and one-half inches below the middle of the clavicle, in the sulcus between the deltoid and pectoralis major. The incision is carried down along the outer border of the pectoralis major, and then follows the lower fold of the mamma. It then forms an ellipse encircling the nipple with a radius of about two inches. The long diameter of the ellipse is parallel with the first incision. The whole figure is likened to a dipper the first incision forming the handle and the ellipse the cup portion. C. H. Mayo modifies this operation, making the ellipse more obliquely. The advantages of this operation are manifestly evident. The flap covers without tension the chest defect and skin grafting is not needed. The drawing of the skin up the arm does away with axillary fossa and with the space necessary for nature to fill in with granulations and scar tissue. The operation after the skin flap is made does not differ materially with the radical Halsted. All vessels are ligated close to their origin, and both pectorals are removed. Mayo preserves the clavicular portion of the pectoral muscle. The scar formed by this operation is small, and healing is rapid. The author aptly illustrates by photographic pictures of cases operated on thereby, showing the marked cosmetic advantage of this operation over previous technics.

Acute Postoperative Dilatation of the Stomach, with Report of Case Following Nephropexy.—Halsted in Jour. of Surgery, Gynecology and Obstetrics, reports case of postoperative dilatation of the stomach. The patient, age 18, complained of right-sided abdominal pain. On examination movable kidney was found. Nephropexy under morphine-ether anesthesia was performed. Patient vomited, complained of great abdominal pain after the operation. Temperature and pulse rose and vomiting green fluid continued up to the sixth day with abdominal distension. Patient died on sixth day after operation. Post-mortem showed enormously dilated stomach and duodenum. The dilatation terminated sharply at a point where the descending limb of the duodenum dipped underneath the peritoneum. The stomach contained about three pints of greenish fluid. The above diagnosis might have been confused with acute obstruction due to volvulus or intestinal paresis.

OBSTETRICS AND GYNECOLOGY

W. H. VOGT, M. D.

(Abstracts contributed by Dr. E. S. McKee, Cincinnati.)

Obstetrics in the Philippines.—Bell (Med. Record) says that the idea that semi-civilized women escape many of the pangs of childbirth is entirely erroneous in regard to the Philippinos. The Filipino woman lives a short life, owing to her many pregnancies and hard manual labor, insufficient food and most of all, the crude, brutal and ignorant practices employed as obstetrical aids. The two chief aids used to assist expulsion of the child are: first, a stout band of cloth passed round the woman's abdomen and pulled tight by four persons, who are seated two on each side of the patient, with their feet against the body. Second, a plank six or eight feet long by a foot wide, which is placed across the woman's abdomen while another person mounted on the plank raises on his toes and descends on his heels forcibly. The birth of the child is followed by the expulsion of the placenta after the above means, and should the process be delayed, forcible traction upon the umbilical cord is made with such energy as to tear away portions of the placenta, and often large sections of this body are left to find their way from the uterine cavity of their own accord. Weeks and even months later the results of such practices are noticed in the septic conditions which should naturally follow retention of the membranes.

Pregnancy Plus Appendicitis.—Fueth (Archiv. fuer Gynecologie) finds appendicitis a serious complication of pregnancy, especially from its tendency to recurrence. Recurrence was noted in 21 per cent of his cases. Monod and others advise the removal of the appendix, as a rule, even when there are no symptoms, at the third or fourth month of pregnancy, if the patient has ever had appendicitis. In a case of incipient appendicitis in a pregnant woman he thinks operation offers the only chance for cure. He found the difference in the temperature in the rectum and axilla, higher in rectum, to be an

important aid in the diagnois. The anatomic condition of pregnancy favor the opening of the abscess in Douglas' pouch. The abscess can be opened through the rectum if there is too much danger of interrupting pregnancy.

Unusual Complication of Labor.—Clark (Cleveland Medical Journal) reports a patient in whom the lower part of the vagina was entirley separated from the upper with a transverse membrane. The anterior attachment of the membrane was one and a half and the posterior two and a half inches from the vulva. Pressure against the membrane showed it to be firm except at one side, the left, which yielded slightly. The color of the membrane was the same as that of the vaginal mucosa. Its thickness was about that of ordinary blotting paper. The second case was one of congenital displacement of the urinary bladder. The cavity of the pelvis was well filled with what appeared to be a cystic tumor attached to the pelvic wall. The tumor disappeared on catheterizing. The catheter had to be passed upward, inward and to the left and then downward before the urine could escape.

Value of Ergot in Obstetrics.—Davis (Therapeutic Gazette) says that he is accustomed to use ergot in some form in the great majority of cases of obstetrics. The only contraindications to its use are excessive hemorrhage with depleted condition of the vessels and a feeble heart. Strychnia is given with the ergot because it rouses the ganglia of the uterus and stimulates the patient's nervous system. He never gives more than two drachms of ergot at one time. He has never witnessed any untoward results from the use of ergot. Hirst has used ergot as a routine course of practice in all cases of labor as soon as the child is born. A very irritable stomach and persistent vomiting are contraindications to its use, but even in these cases after the labor is over, Hirst has succeeded in having the ergot retained. If it has been necessary to anesthetize the patient he gives a deep hypodermic injection in the thigh as soon as the uterus is evacuated. In case of twins he gives a dose of ergot as soon as the first child is born if there is no obstruction to the birth of the second. Cameron uses ergot in all cases of labor after the uterus is emptied, unless contraindicated. He has not seen any untoward effects or accidents from it.

Uterine Colic is shown by Theilhaber (Zentralblatt fuer Gynekologie) not to be the result of the passage of blood clots, for it is most severe from twelve to twenty-four hours after the flow appears. Fritsch has suggested that premenstrual engorgement of the endometrium and the blood acting as a foreign body in the uterus may act as causative factors.

Intermenstrual Pain, Rosner (La Gynecologie) concludes is really a pelvic neuralgia, without apparent lesions, occurring usually in arthritic subjects and resulting from some abnormal action of the ovaries. Ovarian or pelvic neuralgia, at one time held in derision, has now gained recognition.

Periodical Variation in the Menstrual Blood Pressure according to the observations of Van de Velde (Zentralblatt fuer Gynekologie) are due to some chemical irritation proceeding from the ovaries. He shows the uterus, is distinctly enlarged at the time when intermenstrual pain is marked. It was formerly held, and some still claim, that this latter symptom is always associated with a cystic ovary, operation being consequently indicated.

Female Sterility.—Is the treatment of sterility in the female justifiable without examining the sperm of the husband? Pincus (Monatsschrift fuer Geb. u. Gyn.) cautions against the tendency among gynecologists to ascribe the fault too readily to the woman. In every case he believes the husband should be questioned as to his power to have intercourse and a careful examination of his sperm made. Pincus reports 58 cases of absence of spermatozoa in 483 cases of sterility. Further he found 37 instances of persistent oligospermia and 13 of necrospermia. Examinations should be made several times, and at rather long intervals. Temporary azoospermia occurs after repeated intercourse hence examinations should be made.

Placenta Previa.—Warren (Lancet) reports a series of 94 cases in which six mothers died or 6.3%, while of 93 infants 49 died or 52%. As regards parity in the 76 cases in which this was mentioned 12 were primipara, while 36 had had five or more labors previously. None of the primipara died, which is a matter of interest since King in his series found the mortality of primipara to be 30%, the general mortality of his series being 22%. Twin labors occurred twice in the series, of which three infants and one mother died. Recurrences in one case is noted in the three preceding labors. Hyrdramnios was reported in four cases, two of these being of the ten cases seen personally. Prolapse of the cord occurred in three cases out of the 54 in which the de Ribes bag was not used, and in 4 cases out of the 40 in which it was used. Post partum flooding was noted in 14 cases, in four of which the placenta was adherent. Adherence of the placenta was found in two other

cases without post partum hemorrhage. There seems to be a peculiar tendency for placenta with a low attachment to become adherent. In two cases of adherent placenta there was atony of the uterus; both died. One case of puerperal melancholia was recorded. In one group of 27 cases only such minor steps as rupturing the membranes or giving ergot was taken. There was no case of complete placenta previa in the group. In six other cases bipolar version was the treatment adopted. Twenty-one cases were treated by internal version or manual delivery in the case of pelvic presentations. Of the 21 mothers 5 died; of the 22 children 14 died. Forty patients were treated by the insertion of the de Ribes bag. None of the mothers died; 25 of the infants succumbed.

Medical Treatment of the Uterine Fibroids is the title of a paper by Thomas Wilson, of Birmingham, Eng., in the Lancet. He shows that these tumors have not wholly been given over to the knife. "Uterine fibroids are extremely common, but only in small proportion give rise to symptoms, in 30 per cent of those that do the consequences are so serious as to demand operative treatment. Of the 70 per cent some with no active symptoms merely require watching, while others call in addition for medical treatment, under which heading may be included minor surgical and other local means. Medical treatment may be direct or symptomatic. The direct or absorptive treatment does not promise much advantage, especially if we bear in mind the many sources of fallacy that interfere with the correct appreciation of the results of treatment. Symptomatic treatment is successful in many cases in tiding the patient over a crisis and obviating the necessity for operation. Bleeding is most often successfully treated by rest, ergot and the intrauterine application of iodine. Pain requires treatment adapted to its cause; alcohol and morphine should be only administered in temporary and exceptional circumstances. The general condition of the patient, and especially the state of general nutrition and the cardiac and renal functions should be carefully watched. And, finally, operation should be recommended when bleeding gives rise to anemia and does not yield to ordinary treatment; when pain is severe and obstinate; when pressure symptoms, especially retention of the urine occur; when the tumor is rapidly increasing in size; and generally when there is evidence that the health of the patient is becoming impaired, and such impairment appears to be referable to the uterine fibroid." Surely a very conservative consideration of the subject.

PATHOLOGY AND BACTERIOLOGY.

R. B. H. GRADWOHL, M. D.

Pathologic Histology of Hereditary Syphilis, With Especial Reference to the Spirochaeta Pallida.—(C. Levadati, Annales de l' Institut Pasteur, Tome XX, No. 1, January, 1906.)—The presence of the spirochaeta pallida in the organs of newly-born children afflicted with hereditary syphilis was determined shortly after the first publication by Schaudinn and Hoffman by several observers, Buscke and Fischer, and Levadati; this was subsequently confirmed by Hoffman, Babes and Panea, Bodin, Nigris, Bronnum, etc. Staining according to Giemsa's method showed constantly the existence of spirochaetae pallida in cutaneous and visceral lesions of hereditary syphilis. Herxheimer and Huebner were the first to stain with Nile blue the sections of syphilitic chancre showing the spirochaeta. The small number of parasites demonstrable by this method in relation to the severity of the lesion indicated a flaw in the technical worth of this procedure. Later, Bertarelli, Volpino and Bovero (Rivista d'igiene, 1905, No. 16, p. 564) proposed a method of staining based upon the impregnation of spirochaeta in silver nitrate, with the use of Van Ermengen's fluid as a reducing agent. They claimed that this enabled one to stain the organism in tissue satisfactorily. The writer tried this method and found that it was not uniformly successful; thus prolonged immersion of sections in a solution of silver nitrate, from 0.05 to 38% in strength left the organisms very pale. There was also a precipitation of the silver in the sections which made it quite objectionable. The writer changed the method somewhat by fixation in formol and impregnation of the whole piece of tissue in silver, much after the method of Ramon y Cajal in staining nerve fibrillae. With this method a study of lesions of man and monkeys afflicted with syphilis was made and published in C. R. de la Societe de Biologie, vol. LIX, No. 34, p. 527. The present work is a study of the lesions of four cases of hereditary syphilis. Method: 1. Pieces of tissue, 1mm thick, were fixed in formol, 10%, for 24 hours. 2. Washing and hardening in alcohol, 96%, 24 hours. 3. Washing in distilled water several minutes until pieces fall to bottom of glass. 4. Impregnation in silver nitrate solution, concentration varying from 1.5 to 3%; 3% solution is preferable for pieces of tissue obtained from living cases. The impregnation should take place at a temperature of 38 C., for 3 to 5 days. 5. Short washing in distilled water and immersion at room temperature for 24-48 hours in following solution:

Pyrogalic acid..... 2-4%
Formol..... 5 c.c.
Distilled water..... 100 c c.

6. Washing distilled water, dehydrate in alcohol; xylol, paraffin, section (5 microns maximum). 7. Stain as follows: Geimsa's solution for several minutes, wash in water, differentiation in alcohol with few drops of essence of girofle, clear in oil of bergamot and xylol, mount in Canada balsam. Staining as follows can also be accomplished: concentrated solution of toluoidin blue, differentiation in alcohol with few drops of ether-glycerin mixture (Unna), clearing with oil of bergamot and xylol,mounting in Canada balsam (method of Manouelian). With this method, the spirochaeta appears dark, with the nuclei of the epithelial cells and leucocytes blue, while the connective tissue is yellow, Four cases of infants dying shortly after birth and showing visible signs of hereditary syphilis were studied, skin, viscera, etc., examined. A number of definite conclusions were forthcoming as a result of this investigation: 1. The spirochaeta pallida is found in those parts of the body in cases of hereditary syphilis in which the lesions themselves predominate, viz., the liver, lung, supra-renal capsule and skin. They are most abundantly found in the liver where there are lesions of diffuse interstitial hepatitis (hepar silex) and in lungs afflicted with pneumonia, in hypertrophic supra-renal capsules, and in the cutaneous lesions of syphilitic pemphigus. The absence of the organism from organs not commonly affected by hereditary syphilis, viz.,the brain and kidney for example, together with the presence of these self-same organisms in still-born infants as well as those dying after the first few inspirations exclude the possibility of the interpretation of the bodies as agents of secondary infection. 2. The finding of the parasites in the internal viscera of cases of tardy hereditary syphilis entitles the writer to speak of the possibility of a heredo-syphilis which is exclusively splanchnic. This is a form quite different from that showing external cutaneous lesions. 3. The predominance in these findings of the parasites in the liver indicates in some measure the route by which the parasite enters the fetal body from the maternal placenta, i. e., the liver is the first organ to receive blood from the mother, by way of the placental villosities. The hepatic organ being thus the first to receive the incoming blood laden with parasites, it is but natural that it should show the heaviest signs of attack by invading parasites. This is shown by the numerous parasites in the liver sections and by the presence of parasites in the hepatic blood vessels themselves. 4. The marked absence of the parasites from the blood vessels themselves in most situations would seem to indicate that the circulating blood is not a favored site for the development of these spirochaeta. They seem to rapidly leave the blood vessels and fix themselves in the adjacent tissues. This differs from most spirilloses of man and other animals, e. g., recurrent fever, spiriliosis of chickens of Marchoux and Salimbeni. The spirochaeta seems to have the faculty of penetrating certain histological parts by preference, notably the hepatic and renal cells,the cells of the supra-renal capsule and even the cells of the sudorific glands. 5. As to the pathogenesis of the lesions of syphilis in connection with the mere presence of the parasites, it can be said that these lesions are caused by the spirochaeta pallida. 6. As to the explanation of the macerated state of a hereditary syphilitic-afflicted fetus, we can say that this state of maceration is an autolytic act, due to fermentation in tissues killed by an intense intra uterine spirillary disease. 7. A last point to be considered is the manner in which the fetal organism defends itself against the morbigenic action of the spirochaeta pallida. We have only the observation of an intense phagocytosis in the liver adjacent to the spirillary onslaught, also the rarity of the finding of the parasite in the spleen as contrasted with its relatively frequent appearance in an adjacent organ (the liver). It has already been established that there is an intense phagocytosis accompanying the disappearance of the parasites of recurrent fever and of spirillosis of hens respectively (Metchnikoff, Cantacuzene, Levaditi). 8. Regarding the infectivity of the various excretions and secretions from syphilitic disease, we have but little to offer that is new. The presence of the spirochaeta pallida in the protoplasm of the renal epithelial cells in the bronchial tree suggests the danger of syphilitic contagion from products of expectoration and perhaps the urine (Lavadati and Salmon). On the other hand the conservation of the tinctorial and morphological characteristics of the spirochaeta not only in the dermic papilla, but also in the contents of the vesicles of syphilitic pemphigus proves the possibility of contagion from that source.

THERAPEUTICS.

W. T. HIRSCHI, M.D.

The Internal Treatment of Appendicitis.—Mooslrugger (Muench. Med. Wochen., No.37, 1905) has used argentum colloidale Credé internally and inunctions of ung. Credé exter-

nally in cases of appendicitis with good results. In mild cases of several days duration with slight pain, slightly irregular stools and absence of tympanites bed rest, warm applications or poultices and internal administration of argentum colloidale 0.5 per cent, aqueous solutions of which one-half to one tablespoonful are taken every hour. More serious cases with symptoms of nausea, vomiting, chills and high fever, and severe constitutional disturbances receive 10 grams of a 1 per cent solution argentum colloidale every hour, and in addition ung. colloidale is used. Remedies to relieve the meteorismus, or to make the bowels move often dogreat harm, and if indicated must be used guardedly. The same is true of the used of opiates. Improvement with this method is usually observed on the second day. The writer has used his method in 75 cases of appendicitis with but two fatal results, and believes that an early diagnosis and a systematic use of collargol will often save the patient from surgical treatment.

The Effect of Various Substances on Artificial Gastric Digestion.—(J. Tijitain, Arch. internat. de pharm. et de therapie.)—The salts of inorganic bases, excepting the acetates, retard gastric digestion. This is due to the nature of the acids and not of the bases. Weak solutions of boracic acid have little effect, but a 2 to 4 per cent solution retard digestion entirely. The sulphates have the most depressing effect, the chlorides have the least. The salts of organic acids act like the borates. The salicylates are decidedly depressing. The effect of alkaloidal salts depends on the alkaloid and the acid. Quinine and cocaine retard and morphine increases digestion. Among acids, sulphuric acid retards digestion decidedly. Alcohols retards digestion if used in excess of 10 per cent strength, and therefore the depressing effect of alcoholic beverages is usually due to some other factor. Coffee, tea and sugar, if used in small amount are beneficial, but depressing if used to excess.

First Aid and Artificial Respiration.—(Dr. Kuhn, Ther. Monatshefte, No. 2, 1906.)—The cause of asphyxia almost always is not due to the absence or small volume of oxygen in the inspired air, but to the large amount of carbonic acid in the air, or the difficulty with which it is given off. This has led to confusion in the method of treating asphyxia. The following factors have been overestimated in the treatment of asphyxia: 1. Increased pressure of inspired air or oxygen, and aspiration of exhaled air, since atmospheric pressure is sufficient in all cases. Increased pressure will injure the parenchyma of lungs and interfere with pulmonic circulation. The inflation and collapse of the lungs should only follow the variations of the thoracic movements. 2. Importance of oxygen in extra amount (excepting in CO poisoning) since normal air contains 20.8 volume of oxygen, and we can easily get along with less oxygen. Expired air contains about 4 per cent carbonic acid, and if air contains a larger amount, this gas is given off with difficulty by the lungs. With air containing 12 per cent oxygen some difficulty in respiration is experienced; with 6 per cent the condition becomes serious. The following factors have been underestimated in the physiology of respiration. The free elimination of carbonic acid in respired air, and for this purpose the respiratory passages must remain open, i. e., elevation of jaw, pulling forward of the tongue, etc. The systemic rhythmic ventilation of the lungs best accomplished by the Sylvester method.

Floating Kidney in Women.—Heidenheim (Ther. Monatshefte, No. 2, 1906) does not believe that the shrinking of adipose tissue about the kidneys plays a role in the etiology of movable kidneys. Trauma, empyema of the lungs, chronic coughs, chronic constipation, heavy labor and pregnancy are etiologic factors. Wolkow and Delitzin have found paravertebral depressions in which the kidneys rest normally. In men these are funnel shaped with the apex downwards, in women they are cylindrical. The intra-abdominal pressure normally retains the kidneys in these depressions. It is still undecided whether a movable kidney precedes gastroenteroptosis, or whether it follows the latter. Probably it is not always the same. The ideal treatment for movable kidney is surgical, but it only becomes necessary in the more severe cases. The wearing of abdominal supports which hold the abdominal organs in place do much good. These must compress the lower abdomen to force the bowels upwards. Special pads to hold the kidney in place do more harm than good. The writer prefer Glenard's hypogastric girdle in most cases of movable kidney, especially if it is associated with gastroenteroptosis.

LARYNGOLOGY AND RHINOLOGY.

HERMAN STOLTE, M. D.

Syphilitic Empyema of the Accessory Sinuses of the Nose, with a Report of Four Cases.—Joseph H. Abraham (Med. Rec., March 3, 1906) declares that although luetic lesions may invade any part of the upper respiratory tract, and although tertiary lesions seem to

prefer the naso-pharyngo-laryngeal cavities and tissues to those of any other part of the body, syphilis of the accessory sinuses is rather uncommon. He describes four cases that have come under his care. The chief symptoms were nasal discharge and fetid breath. Pain was not constant, but was always present during mastication. Pus was present in all these cases. The writer, in making his diagnosis, relied upon the presence of a purulent accumulation in the middle meatus anteriorly, transillumination, and puncturing and aspirating the maxillary sinus. In order to detect pus, the nasal cavities are first thoroughly cleansed, and the patient is directed to incline the head to the opposite side for a minute, then downwards and forwards. If the middle meatus be then examined, pus, if present, will be seen adhering to the inferior surface of the middle turbinate anteriorly. A darkened area over the maxillary sinus is noted on transillumination of the maxillary antrum. From his experience with these cases, the writer thinks one is justified in claiming that no syphilitic patient is free from the possibility of tertiary manifestations, in one form or another, even after a thorough course of antisyphilitic treatment, lasting two years or more. On this account all syphilitic patients should be advised to consult their physicians every one to three years subsequent to their treatment. A positive diagnosis of empyema of the antrum of Highmore may be reached by means of the proper application of the aspirating needle. Syphilitic empyema of the accessory sinuses quickly responds to specific treatment and conservative surgery. The administration of iodides in small doses, increasing one grain three times a day, has proved of more value in the writer's experience than large doses rapidly increased. Finally, he believes that unless urgent symptoms demand immediate operation, operative interference should be delayed, in order to obtain as great an absorption of the gummatous infiltration with the iodides as possible.

Significance of Edema of the Pharynx.—(Jacob E. Schadle in the February number of the Laryngoscope.)—In a well written article Dr. Schadle gives a carefully followed history of true edema of the pharynx accompanied by albuminuria. His theory of an infectious nephritis caused by an attack of tonsillitis is supported by the facts he records.

Indications for Curative Tracheotomy in Laryngeal Tuberculosis.—A. Henrici (Archiv fuer Laryngologie, Vol. XXVII) illustrates his advocation of tracheotomy in laryngeal tuberculosis by very interesting histories of four cured cases of laryngeal tuberculosis; the patients being all children between 11 and 14 years. He points out that tracheotomy should not be directed by vital indications only, but should be performed oftener as curative measure. Suitable conditions are represented (1) by juvenile age of the patient, in which the vitality is stronger and the damaging after-effects of the surgical interference are much less marked as in older persons, being in youth remarkably slight; (2) by the lack of any greater tubercular change in the lungs and the existence of fair general condition of health, these latter depending chiefly on the former; (3) by the benignity of the tubercular process in the larynx being slowly progressive and representing more the forms of infiltration and tumefaction, not the ulcerative form. Guided by these points of view we can expect excellent curative results by tracheotomy in laryngeal tuberculosis.

The Use of the X-Ray in Sinus Disease of the Nose.— Mosher (Laryngoscope, Feb., 1906) claims a superior diagnostic value for the X-ray plates in sinus disease, and brings forward some very interesting cases to support his contention. He admits, however, the necessity of being an expert operator and the difficulty of recognizing what is seen, particularly on plates taking a lateral view.

OTOLOGY.

ALBERT F. KOETTER, M. D.

A Case of Leukemia Hemorrhage in the Inner Ear with Special Reference to the Pathologic-anatomic Examination of the Temporal Bone.—(Aage Kock, Kopenhagen, Zeitschrift fuer Ohrenheilkunde.)—Man of thirty-two, acquired malaria in China, since then has been ailing. Based on the clinical and blood examination the diagnosis of leukemia, medulla lienalis was made. Suddenly vertigo tinnitis and decrease in hearing set in, after two days total deafness. The post-mortem verified the clinical diagnosis. The histological examination of the temporal bone showed the following: Left Ear.—Abundant fresh hemorrhage in the cochlea, especially in the basal convolutions, mainly in the scala vestibuli, every part of Reissner's membrane sprinkled. Differentiation of the cells in the organ of Corti impossible. From the scala vestibuli the hemorrhage continues to the vestibule, where it is localized on the median wall, furthermore, in the ampullae in the endolympphatic as well as the perilymphatic spaces. Hemorrhage in the tympanum also occurs. The medullary space of the malleus and incus are filled with lymph cells. Right Ear.—Hemorrhagic changes more pro-

nounced than in left ear, scalla vestibuli and scala tympani entirely filled with blood; of the delicate parts of the membranous cochlea nothing is visible, the basilar membrane is fenestrated in several places. In the course of the semi-circular canals the perilymphatic spaces in both ears are filled with blood, whereas the interior of the membranous semi-circular canals are for the greater part clear.

Clinical Examination of the Sense of Equilibrium.—(Panse-Lucae, Festschrift.)—Vertigo is a condition of space disorientation of our body against its surroundings. The irritations that lead to semicircular canal vertigo must be strong enough or they will be equalized by the eye, or the tactile sense. One can therefore bring about the semicircular canal vertigo if the control by the eye —closing the eyes—and control of the tactile sense, putting the feet together, standing on one leg, is made impossible or rendered difficult by creating an irritation of the semi-circular canal track. The latter is reached by turning the head to the side on which the semicircular canal is to be tested, namely, through touching a semicircular canal fistular, or by turning the eyes to opposite side of the canal tested. If we now consider as the semicircular irritation of the flow of lymph from the narrow part of canal to the ampullae as the active moment, the kind of test and the results to be expected for the individual semi-circular canal follow of its own accord. The factor of the exclusion of control through the eye and rendering difficult the control through the tactile sense remains equal in the test for all semi-circular canals, including utricle and saccule. Test for the horizontal semi-circular canal: Turning to the side of the canal in question around a vertical axis, or turning to the opposite side with sudden cessation of the turn, position of eyes to opposite side of canal tested. The body, in test of left semi-circular canal, turns to the left side, objects to the right side, phenomena that have been recognized in irritation of left semi-circular canal. Corresponding test of the anterior semi-circular canal, always supposing that the flow of lymph from narrow part of canal to the ampullae is active: raising of the head which has been bent, forward or turning forward and sudden cessation of revolving stool with head bent forward so that the bridge of the nose is horizontal, defect of eyes downward; an irritation of the anterior semi-circular canal causes therefore a sensation of reeling backward, and the sliding forward of objects. Test for posterior semi-circular canal: dropping of the head, turning forward, with head resting horizontally on the shoulder, in the revolving stool, defect of the eyes upward. In irritation of the anterior semi-circular canal the sensation must appear as if the field of vision were turning from the front to the rear and the individual himself were falling forward. The maculae acusticae of the utricle should functionate in upward and downward, and in rectilineal side movements, the maculae of the saccule functionate in forward and backward movements.

The Aqueductus Vestibuli as a Means of Infection.—(Boesch, Zeitschrift fuer Ohrenheilkunde).—Based on his own observations and twenty-one cases reported in the literature, the author compiles a statement of the pathogeny of suppuration in the aqueductus vestibuli. Contrary to Hinsberg, Boesch in sixty-five cases of labyrinth suppuration, in which the path of infection from the labyrinth to the interior of cranium was plainly indicated, the extension of the pus through the aqueductus, vestibuli occurred twenty-two times. A fact, which puts the importance of this manner of extension in a proper light. The cases of aqueductus vestibuli suppuration that Boesch gathered where chronic suppurations, the labyrinth was involved preferable through the fenestra ovalis, or the horizontal semi-circular canal. From the vestibulum the pus extended to the saccus endolymphaticus, providing the aqueduct has not had time to close up by means of connective tissue formation, and then there occcurs an empyema of the saccus endolymphaticus. In extremely isolated cases the saccus seems to have been reached directly from the antrum and surroundings of the labyrinth and aqueductus by the carious process. The pus very seldom extends through the acutely distended saccus, be it subdural through the posterior membrane or extradural through the anterior membrane. In most cases there is time for the formation of adhesion in the vicinity of the inflammatory focus. The dura becomes adherent to the pia respectively with the cerebullum which can only be reached in a direct way by the infection. As moreover the saccus is too small and too delicate to become a retainer for the pus, it is therefore probably an accumulation of pus between the dural membranes, and Boesch proposes the name interdural abscess. Of cerebral complications in the twenty-three cases of Boesch were as follows: one extradural abscess, three purulent, meningitis, four meningitis and sinus thrombosis, three meningitis and abscess of cerebellum, ten abscess of cerebellum. The sigmoid sinus can be infected by way of vena aqueductus vestibuli. The prevalence of

cerebellar abscesses follows through the explanation given above as regards chronic condition of the case, the formation of adhesion protects the meninges and favors the direct infection of the cerebellum. In all cases only the immediate cerebellar hemisphere contiguous was infected. The abscess, about the size of a walnut, is situated in the medullary layer and usually has a pyogenic membrane, rarely does a direct fistula from the primary focus lead through the cerebral cortex to the abscess. A positive diagnosis of saccus empyema cannot be made which is deplorable, as this point can be reached through operation and in chronic character of disease on extension of the process to the brain and meninges could be prevented.

Is Inflation of Air in Acute Otitis Media Purulenta, on Account of Complicated Mastoiditis, Indicated or Not?—(Schuetze, Inaugural Dissertation.)—After the author gives the different hypotheses of several writers for and against the use of air inflation in acute otitis media purulenta early and during the course of the disease, he relates his experiments on forty-four cadavers, that shall answer the above question. He injects into the tympanic cavity through the posterior superior quadrant with a Pravasz syringe one-fourth, one-half and one ccm. of methyl blue glycerinae or methyl blue pus, making the perforation sometimes large and sometimes small. Afterwards the inflation is done with a catheter and then the mastoid process opened to see whether the colored solution was diffused into the mastoid cells. In sixteen cases of large perforation only once colored solution was found in the terminal cells; in small perforations of eighteen cases, seventeen were found with colored solution in cells. In eight cases the colored solution was injected without following catheterization with considerable pressure into posterior superior quadrant to see if injection pressure could force fluid into mastoid cells. Seven cases were free from fluid. Therefore air inflation undoubtedly forced the fluid into the cells. After these attempts the author answers his question in the following terse way: the air inflation in acute otitis media purulenta without large perforation is dangerous, and should be avoided, as it may develop a mastoiditis, it is to be used after the acute condition has subsided and belongs to the after treatment.

Hysterical Dysphagia.—Levy lately reported a case of a woman who had swallowed no solid for eighteen years, the condition being cured by suggestion, along with the passage of esophageal bougies after cocainization.

SPIRIT OF THE MEDICAL PRESS.

The Neurons.—L. F. Barker, Baltimore (Jour. A. M. A., March 31 and April 7), reviews the history of the neuron doctrine and the actual state of our knowledge of the subject at the present day. He comes to the conclusion that "none of the theories opposing the neuron conception has led to the objective demonstration of the existence of a real continuity among the nerve elements," and that there is a marked difference between so-called neuronists and anti-neuronists in the interpretation of the known facts. The former admit only what is demonstrable and not finding intracellular anastomoses, they do not feel called on to admit that they exist. The latter, while equally unable to demonstrate their existence, hold that they ought to exist, that continuity is a priori so probable that those who deny it should be compelled to prove to their satisfaction that it is impossible. He suggests that the multiplication of hypotheses may have been largely due to the assumption that the neurofibrils represent the sole conducting element in the nervous system, a point by no means yet satisfactorily proved. The question is of the possibility of nerve conduction, apart from the cell body and of the auto-regeneration of nerve, are noticed, and the known facts discussed. Barker does not deny their possibility. The disputed question as to the unicellular or pluricellular origin of the neuron and its peripheral nerve fibers is taken up and the remarkable investigations of Dr. Ross Granville Harrison, demonstrating that motor nerve fibers develop as process of the anterior horns instead of being developed from the neurilemma cells along their course, are mentioned as among the most important of the recent contributions to our knowledge of the subject. But even if the pluricellular origin of the neuron could be demontrated, it would still be an anatomic unit, but as an organ rather than a single cell. The article is very fully illustrated.

The Blood-Clot Dressing.—H. O. Reik, Baltimore (Jour. A. M. A., March 31), believes that the blood-clot dressing, recommended by Blake of Boston, in the mastoid operation best meets the needs and offers the best results. Those who have tried it report no unpleasant results, and he thinks that it more nearly restores the natural conditions than do other methods in use. Even if the wound is not absolutely clean the normal blood possesses certain bactericidal power, which is greater after it is drawn from the vessels than while still in the circulation. It is

present only when the blood is alkaline, and he thinks that some of the failures of the blood-clot dressing are perhaps attributable to the use of chemical antiseptics in cleansing the wound. On theoretical grounds, it would seem more rational to rely on dry cleansing with instruments and sterile sponges or by washing out the wound with sterile salt solution, which, if it has any effect on the clot, would increase its alkalinity and power to control septic action. He adds some words on the technic of the blood-clot dressing: First, absolute cleanliness and removal of every particle of infected material; second, the closure of the wound in such a way as to prevent the introduction of new infection and to promote primary union. Chemical sterilization should be avoided and sterile salt solution should be used if irrigation is deemed necessary. Finally, for the closing of the wound the subcutaneous silver wire suture recommended by Halsted may be used. It can easily be disinfected, and is itself antiseptic and can be removed without pain at the proper time. A silver foil covering over the closed wound will add something to the protection. Reik believes that this will come to be accepted as a standard method in mastoidectomy.

Operative Technique and After-treatment for Mastoiditis with Epidural Complications.—W. Sohier Bryant (Med. Rec., Mar. 31,) after reporting two cases, makes the following recapitulation: The front-bent gouge proved very useful in perforating the mastoid cortex, after which the rongeur and the curette did all the bone work except in the second case, where the chisel and the mallet were used for the epitympanic work. The first steps of the operations were the same as in uncomplicated cases of mastoiditis. As the work proceeded, the wounds were enlarged sufficiently to uncover all of the affected dura, and bone was removed until healthy dura surrounding the disease area was exposed. After all the inflamed dura mater had been uncovered and all the affected bone had been removed, the wound in one case was closed without sutures, while in the other it was packed and left open. The unpacked wound collapsed and partly filled with a blood clot, thus reducing the size of the cavity, which had to granulate up and cicatrize. No complications due to the exposure of a large area of dura mater developed during convalescence. In the case in which the front-bent gouge, rongeur, and curette did all the bone work, and which was closed without sutures, the convalescence was very short and the deformity was reduced to a nearly imperceptible scar and scarcely perceptible pitting. The front-bent gouge gives the best results, since after its use convalescence begins more quickly. Convalescence is shortened by closing the mastoid wound and allowing it to collapse and partly fill with a blood clot. The postaural cosmetic effect is improved by allowing the anterior flap of the wound holding the pinna to fall inward and backward, so as to lie on the posterior and inner wall of the wound. When packing is avoided a large cavity which requires a long time to granulate up is not formed.

Eye Strain and Digestive Disorders.—G. M. Gould, Philadelphia (Jour. A.M.A., March 24), comments on a statement made by Dr. J. H. Musser in The Journal, No. 4, 1905, that the cure of so-called bilious attacks, etc., by the correction of errors of refraction is a common and familiar occurrence. He points out that it is sixteen or seventeen years since he himself first began to affirm and to reaffirm this truth, and this is the second convert made among the diagnosticians, leading practitioners or gastrologists. Notwithstanding the admission that the fact "is familiar to all." Gould reviews the text-books and literature and shows how little mention it has received and how generally it has been ignored by the authorities. He claims that he began and for ten or a dozen years was alone in advocating the ocular origin of these diseases, and objects that after being ignored so long it should now be accepted without due credit to its earliest advocate, is simply a truth "familiar to all." While the admission, he says, is a breach in what have seemed the impenetrable walls raised by the authorities and text-book making classes, he doubts its sincerity and calls for honest report of cases from those who must observe them, and a general scientific utilization of the truth in practice.

Missouri Valley Special to Boston.—Arrangements have been perfected for a superb special train to Boston, to attend the meeting of the American Medical Association, June 5 to 8. Route: Grand Trunk, via Niagara Falls, Toronto, Montreal, Thousand Islands, daylight ride down the St. Lawrence iver, returning by rail. One fare, plus $1, for round trip. This train will run special through from Chicago, and will be made up of Pullman palace sleepers, dining cars, buffet-library and observation cars. For reservations and itinerary address Dr. Chas. Wood Fassett, Secretary, Medical Society of the Missouri Valley, St. Joseph, Mo.

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scientific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

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The Medical Fortnightly will not be discontinued at expiration of subscription, as many of our readers prefer not to have their files broken on account of failure to remit. Unless we receive a distinct request to discontinue, and payment for all arrearages, this magazine will not be discontinued.

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Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

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Contributions and books for review should be addressed to the editors, 319 and 320 Century Building, St. Louis, Mo.

FAVORITE PRESCRIPTIONS

WOUNDS.—

℞ Hydrargyri chloridi corrosivi.. gr. vij
Ammonii chloridi..... gr. x
Aq. dest..... fl ʒ xvj

M. Sig. Use as antiseptic wash and to moisten dressings.

Indications.—Used before and after surgical operations and in accidental wounds. Punctured wounds should be incised, irrigated with solution, and drained according to antiseptic principles.—Ex.

HYPNOTISM FOR MORPHINE USERS, DRUNKARDS, ETC.—Berezinski Roussky Vratch would treat drunkenness, the morphine and tobacco habits by the employment of hypnotism, as there are no drugs which will cure these habits. He advocates sanatoria where these cases can be confined and treated hypnotically. He says hypnotism easily and readily cures the tobacco habit, but there is soon a relapse. In alcoholics 20 to 80 per cent of cures have been effected.—Ex.

URAEMIA.—

℞ Pilocarpinae hydrochlor..... gr. 1
Aq. dest..... *m* 80

M. Sig. Ten drops hypodermically, or by mouth in case of anasarca.

Indications.—Used in conjunction with hot pack as powerful diaphoretic. In the presence of weak heart or of coma the pilocarpine is dangerous. It should never be administered if there is edema of the lungs.—Ex.

NEURALGIA.—

℞ Ol. ricini..... ʒ iij
Ol. cinnamomi..... *m* v

M. Pone in capsules No. xxiv. Sig. Four capsules at bedtime every second or third night.

Indications.—Castor oil has been found valuable in the treatment of many persistent and severe forms of neuralgia, as well as in acute cases. If patient desires, the oil may be given floated upon coffee, soda water or beer, instead of in capsules.—Ex.

FOOT POWDER.—To prevent perspiration and cure corns:

℞ Pulv. salicylic acid..... ʒiss
Pulv. sodium bibor..... ʒss
Cretae preparata..... ʒj

Make into a powder and use as a local application inside stockings and shoes.—Doane, Med. Sum.

INFLUENZA.—Wolfe recommends for the muscular and joint pains of this condition the following lotion:

℞ Pot. carb.....
Tinct. bellad.....aa ʒss
Aq. camph., q. s. ad..... ʒiv

Sig.: Apply every hour. Penns. Med. Jour.

MIGRAINE.—Ratchvord, in Medicine, recommends the following combination in the treatment of migraine:

℞ Sodii sulph..... 3 ½
Sodii salicylatis..... gr. 10
Mag. sulph..... gr. 50
Lithii benzoatis..... gr. 5
Tinct. nucis vom..... *m* 3
Aq. dest..... ʒ 4

M. Sig.: To be placed in a siphon bottle and carbonated, and a small amount, sufficient to produce a laxative effect, taken daily before breakfast.—Jour. A. M. A.

IRITIS.—If the inflammation of the iris is acute with intense pain, four or six leeches to the temple will give good relief.

The atropine solution should be used at an early date, and

℞ Strong mercur. ointment..... ʒiiss
Ext. of belladonna..... gr. xv

rubbed over the eyebrow

If the inflammation is very acute, the following solution might be ordered:

℞ Sulphate of atropine..... gr. j
Hydrochlor. of cocaine..... gr. iv
Solution of adrenalin..... *m* xxx
Aq. (1 to 1,000)..... ʒiiss

One drop in the eye every three hours.

Paracentesis of the anterior chamber may be indicated if the tension is great and the pain is severe—N. Y. Med. Jour. and Phila. Med. Jour.

SOCIETY PROCEEDINGS

MISSOURI STATE MEDICAL ASSOCIATION.

The annual meeting of this association will be held in the State Capital, Jefferson City, Mo., May 15, 16, 17. The first day will be devoted to the sessions of the House of Delegates and the transaction of routine business. Reduced rates on the certificate plan will be in effect on all railroads. The Missouri Pacific, with its excellent train service, will be the popular route from this city and vicinity. Following is the preliminary program:

MEDICAL SECTION

SECOND DAY—WEDNESDAY, MAY 16.

Morning Session, 9 o'clock

The Nervous System of the Child.....Scott P. Child, Kansas City
Ovarian Function.....Davis Forster, St. Louis
The Use and Abuse of the Obstetrical Forceps....A. L. Gray, St. Joseph
Typhoid Fever.....E. P. Davis, Woodruff
Illegal Practice of Medicine.....H. F. McGinnis, Higginsville
The Best Time to Give Quinine.....R. L. Johnson, Rolla
Criminal Abortion; A Prevailing Evil Against the Unborn Generation; A National Crime Committed for Mere Social Promotion
.....T. F. Lockwood, Butler

Afternoon Session, 1:30 P. M.

Malaria.....T. C. Allen, Bernie
Broncho-Pneumonia.....T. O. Davis, Maitland
The Present Status of Psychotherapy...Dora Green-Wilson, Kansas City
Cough.....J. C. Buckwalter, St. Louis
Infantile Intussusception from the Country Practitioner's Standpoint..... J. D. Brummall, Salisbury
Mucous Colitis.....F. H. Matthews, Liberty
Syphilis of the Nervous System.....C. J. Morrow, Kansas City
Ear-Tire as a Factor in Disease..... E. H. Mussen, Buckingham

General Session, 7:30 P. M.

Address of President.....D. C. Gore, Marshall
Address in Medicine.....W. G. Moore, St. Louis
Address in Surgery.....C. H. Wallace, St. Joseph

THIRD DAY—THURSDAY, MAY 17.

Morning Session, 9 o'clock

The White Plague.....H. Jarard, Pleasant Hill
Albuminuretica.....C. O. Lewis, Fayette
Arteriosclerosis..... Tinsley Brown, Hamilton
The Therapeutics of Eczema.....W. J. Frick, Kansas City
Missouri Sanatorium for the Treatment of Incipient Tuberculosis and its Legal Foundation.....W. M. Bayliss, Mt. Vernon
Treatment of Adenoids by the General Practitioner.....
.....W. E. McKinley, Denver
Neurasthenia, Traumatic and Idiopathic; Its Pathology and Prognosis..... .....David S. Booth, St. Louis
Etiology and Cure of Hysteria.....E. F. Walter, Perry
State Medicine.....C. M. Mitchell, Blythedale

Afternoon Session, 1:30 P. M.

Etiology of Pneumonia .....C. A. Snodgrass, St. Louis
Histology of Pneumonia.....Frank J. Hall, Kansas City
Diagnosis of Pneumonia..... Robert T. Sloan, Kansas City
Treatment of Pneumonia .....W. G. Moore, St. Louis
Gas Bacillus Infection; the Clinical Results of the Development in the Bacillus Aerogenes Capsulatus..Ernest E. Robinson, Kansas City

The Importance of the Sigmoid Flexure in the Production of Enteroptosis, Pelvic Displacement and Reflex Phenomena..J. M. Allen, Liberty
The Treatment of Gastric Ulcer.....Franklin E. Murphy, Kansas City

SURGICAL SECTION

SECOND DAY—WEDNESDAY, MAY 16.

Morning Session, 9 o'clock

Ectopic Pregnancy..... O. B. Campbell, St. Joseph
Epithelioma of the Lip.....J. J. Claussen, Kansas City
Abdomidal Injuries.....H. C. Dalton, St. Louis
Suprapubic Cystotomy as Preliminary to and as a Route for the Performance of a Considerable Number of Prostatectomies.... ..... W. T. Elam, St. Joseph
Spina Bifida.....J. D. Seba, Bland
Some Remarks on the Treatment of Chronic Joint Disease..... ..... M. M. Edmondson, Kansas City
Surgical Aspects of Typhoid Fever.....W. C. G. Kirchner, St. Louis
Suppuration of the Superior Maxillary Sinus with Involvement of Ethmoidal Cells and Sphenoidal Sinus.....H. Jurgens, Edina

Afternoon Session, 1:30 P. M.

An Unusual Retroperitoneal Tumor in the Mesocolon Simulating a Fibroid of the Uterus.....W. H. Dorsett, St. Louis
Pyuria.....E. G. Marks, Kansas City
Limitations of Surgical Procedures in Cancer....G. W. Broome, St. Louis
The Limitations of Surgical Interference...Ernest von Quast, Kansas City
Some Questions Concerning the Treatment of Uterine Fibromyomata.....H. S. Crossen, St. Louis
The Treatment of Retroflexion of the Uterus..A. F. Hertzler, Kansas City
Some Recent Advances in Ophthalmology.....J. M. Ball, St. Louis
Rectal Abscesses..... J. M. Frankenburger, Kansas City

THIRD DAY—THURSDAY MAY 17

Morning Session, 9 o'clock

Non-Lithogenous Obstruction of the Biliary Ducts..... .....A. H. Cordier, Kansas City
Lessons to be Drawn from Recent Operations on the Stomach ....W. Bartlett, St. Louis
Appendicitis.....C. G. Geiger, St. Joseph
Why Some Appendectomies are Followed by Prolonged Abdominal Pain.....Francis Reder, St. Louis
The Country Doctor and Appendicitis..... M. P. Shy, Knobnoster
Surgical Problems in Spinal Trauma.....John C. Morfit, St. Louis
Tuberculous Disease of the Joint.....T. E. Potter, St. Joseph
The Importance of Post-Operative Treatment in Diseases of the Rectum..... W. H. Stauffer, St. Louis

AFTERNOON SESSION, 1:30 P. M.

The Relative Value of the Surgical Procedure Employed for the Relief of Paralysis Following Acute Anterior Poliomyelitis..... ....Nathaniel Allison, St. Louis
Surgery of the Liver.....St. Elmo Sanders, Kansas City
Do We Cure Diffuse General Peritonitis....John Young Brown, St. Louis
A Method of Radical Relief of Cases of Deafness Long Abandoned as Hopeless, Illustrated by Report from Actual Practice..... .....R. Barclay, St. Louis
A Method of Operating in Inguinal and Femoral Hernia When Complicated by Abscesses.....Herman E. Pearse, Kansas City
Ovarian Tumors, and Presentation of Specimen ....J. D. Porterfield, Jr., Cape Girardeau

Tuberculous Affections of the Rectum.....E. H. Thrailkill, Kansas City
Primary Tuberculosis of the Rectum with a Report of Cases.....
.....Leon Straus, St. Louis

OFFICERS FOR 1906.

President—D. C. Gore, Marshall, Mo.
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MEDICAL SOCIETY OF THE MISSOURI VALLEY AT ST. JOSEPH.

The eighteenth semi-annual meeting of this society was held at St. Joseph on March 22-23, under the presidency of Dr. Jno. E. Summers, of Omaha. There were fully one hundred and fifty in attendance, and the prediction made in these columns a few weeks since regarding the scientific work accomplished by this body was fully realized.

Dr. Chas. H. Mayo presented a most timely paper on "The Surgical Treatment of Goitre," detailing results in 200 cases.

Dr. L. L. McArthur, of Chicago, delivered the oration on Surgery and handled his subject in a masterly manner. Surgery of Intestinal Tuberculosis was his theme. Other papers read were as follows:

S. Grover Burnett, Kansas City, Some Pathology of the Morphine Habit, and My Preferred Method of Treatment.

C. O. Thienhaus, Milwaukee, Wis., The Surgical Treatment of Total Prolapse of the Uterus, with a Report of Operated Cases.

Palmer Findley, Chicago, Is Vaginal Cesarean Section Justifiable?

Wm. Frick, Kansas City, Mo., Blastomycetic Dermatitis, with Reports of Cases.

F. E. Coulter, Omaha, Tumors of the Cerebellum, with Report of a Case.

M. M. Edmondson, Kansas City, Mo., Club Foot, with Special Reference to Postoperative Treatment.

W. F. Milroy, Omaha, Indirect Effects of Valvular Lesions.

Bernard A. McDermott, Omaha, Some Principles in the Treatment of Rupture of the Male Urethra.

T. C. Witherspoon, St. Louis, Removal of the Uterus in Certain Inflammatory Conditions.

R. D. Mason, Omaha, Some Advances in the Office Treatment of Rectal Diseases.

R. C. Moore, Omaha, The County Sanatorium for Pulmonary Tuberculosis.

L. J. Dandurant, St. Joseph, Ligation of Common Femoral Artery for Large Aneurism in Scarpa's Triangle; Recovery; Presentation of Patient.

John P. Lord, Omaha, The Surgery of Paralyses.

E. T. Shelley, Atchison, Kas., The Expectant Mother.

A. E. King, Blockton, Ia., Rachitis.

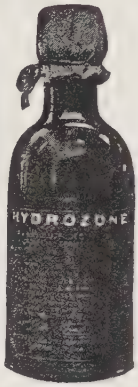
The discussions were animated and interesting. A full report of the proceedings was taken by Mr. Wm. Whitford, of Chicago, the official stenographer of the American Medical Association, and this report will appear, together with all the papers, in the society's official journal, the Medical Herald.

A resolution was adopted endorsing the Pure Food and Drug bill now pending in the house.

An amendment to the constitution was adopted, changing the date of the annual meeting to the first Thursday in September at Council Bluffs.

The society will go as a body to the meeting of the American Medical Association in Boston, June 5th. A special train will be chartered on the Grand Trunk railway, taking the members and their friends via Niagara Falls, Montreal, and down the St. Lawrence River to Boston.

Hydrozone



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MEDICAL MISCELLANY

THE "VENAL" MEDICAL PRESS.—What is all this ado about the sinfulness of publishing advertisements of proprietary medicines? My Faith! to read the late issue of the California State Medical Journal one would think the medical editors were nothing but a pack of mercenary knaves. It is "venal" we are and "subsidized," sunk, indeed, in the lowest depths. And the J. A. M. A., too, has been pounding along in the same lines and roundly denouncing all prescribers of those nefarious concoctions. But mark you, the smell of fire is pretty strong on their own garments, for their advertising pages tell their own tale. Proprietary medicines, which no doubt are very good, are there advertised and their formulae, too, are given, but in a more or less indefinite way, a way that would be confusing to a compounder and certainly so to the majority of prescribers. The publishing of these formulae makes the articles none the less proprietary nor does it detract from or add to their efficacy and, if there be a sin in publishing these advertisements, we fail to see how the giving of these quite indefinite formulae removes the curse. But, according to this pricker of consciences and rattler of dry bones it is sinful, it is "venal" to publish these advertisements. Further, by pursuing our "venal" ways we are upholding the Arch Enemy in his works to undoing and the lasting disgrace of the profession. Perhaps we are, but we can not believe the men who give character to the majority of the medical journals of this country, Canada and Great Britain are "venal," are "subsidized" and debauched by the manufacturers of proprietary medicines. We do not believe that the California State Journal really means what it says or is mortifying itself to any great extent for its own sins. Neither do we believe that it is wrong to carry advertisements of these articles of merit, for, such many of them are; nor do we consider it an unpardonable sin to prescribe a proprietary remedy when it will do what we want of it, and is more convenient and palatable than anything we could have compounded, prescribed we ever so beautifully. While we like the old drugs to which we have grown accustomed to, there are times when the newer preparations, even though proprietary, are as a haven of refuge, "a rock in a thirsty land." It is then we have prescribed them, have gotten desired results and have felt grateful to the journal whose pages informed us of the remedy. Yes, we have prescribed proprietary medicines and expect that we may do likewise in the future, that too, with a clean conscience and, "Tell it not in Gath," we have even prescribed "peptomangan" and gotten results when the tincture of the chloride of iron could not be tolerated, useful as that time-honored remedy is and, worse, if possible, we have given "Fig Syrup" to babies and nervous women when officinal preparations for one reason or another have not given satisfaction. We do not believe in habitually prescribing proprietary remedies, as it encourages slip shod methods of thinking and prescribing just as surely as does the prescribing or dispensing of ready-made tablets or mixtures, excellent though they may be, but there are times when they "fill the bill" to a nicety and it is then we believe it our duty to the patient to prescribe them. This we know will bring down disapproval from many and honest disapproval, too, from some, but it will all be honest or do people forget their shortcomings? It is not very long ago that we listened to a paper by a distinguished gentleman anent the subject of proprietary preparations. In this, he took occasion to roundly denounce all physicians by inference who would prescribe, for example, any preparation in a long list which he read. We were, as he proceeded down the line, feeling very small indeed, for we had been guilty, until a certain preparation was mentioned, then our spirits rose, we were sure he did not mean all he said or else he had suddenly reformed, for it was only a short time previous that we had the privilege of reading a prescription written by the essayist which called for this same preparation The gentleman had honestly prescribed this

preparation and the patient averred that it had greatly benefited him, why, then, should he have been so sweeping in his condemnation unless he had forgotten? And why should our western brother be so unmerciful and uncharitable when he himself is likewise at fault if fault there be? We are free to confess that these sweeping charges of "venality" and "subsidization" sound very strangely in our ears, we fail to grasp their full import. We have thought no evil and can not believe that such evil exists. We believe in publishing good, clean advertisements even though proprietary; we do so with good conscience, not knowing that we are "venal" by so doing and knowing we are not "subsidized."—Milwaukee Medical Journal.

SURGICAL SUGGESTIONS

(American Journal of Surgery)

Before excluding glycosuria examine both morning and evening specimens of the urine.

When operating upon the ureter for calculus or stricture, avoid undue manipulation; it is important to prevent detachment of the ureter from its bed if possible.

Attacks of abdominal pain associated only with intestinal symptoms, may nevertheless be due to a renal or urethral calculus, even though, in addition, a tender area may be palpated at a point more or less remote from the kidney regions.

In a very acid urine red blood cells may be disintegrated and appear under the microscope as an amorphous material. When it is important to determine the presence or absence of blood in the urine it is sometimes necessary, therefore, to resort to a chemical test, e.g., that with guaiac resin.

A radiographic shadow simulating that of a urinary calculus may be produced by an atheromatous plaque, as, for example, in the internal iliac artery, by a phlebolith, or by a calcareous gland.

If a cystic swelling in the scrotum is opaque when examined by the well-known transillumination test, especially if a history of traumatism is elicited, it may still be a hydrocele. Admixture of blood in the hydrocele destroys its translucency.

Subiodide of bismuth dusted on an oozing granulating wound promptly stops the bleeding. It is also an excellent stimulant to the growth of epithelium.

Collodion, commonly used to seal a puncture wound, as after aspiration, will not adhere if the spot is wet or bleeding. To obviate this, pinch up the skin, wipe it dry, apply the collodion and continue the compression or so until the collodion has begun to contract.

Enlargement of the veins at the sides of the abdomen is indicative of obstruction to the flow of blood in the inferior vena cava; distension of veins about the umbilicus suggests obstruction in the portal circulation. The former may be associated with varices of the lower extremities, the latter with hemorrhoids.

If the cause of pain in the feet is not otherwise clear, examine them in the dependent position. This may develop the presence of erythromelalgia.

The twisting of the pedicle of a small ovarian cyst may simulate both the symptoms and the signs of attacks of appendicitis.

Severe and repeated headaches may be due to the unsuspected presence of otitis media, with or without mastoiditis.

MEDICAL MEMORANDA.

For Sale.—First-class surgical chair and fine improved nebulizer. Both will be sold cheap if taken at once. Address "Removed," care Medical Fortnightly, St. Louis, Mo.

I prescribe resinol ointment almost daily, and will say that it is the finest preparation for what it is intended. I have used it in my practice of twenty-one years Seven years general and fourteen years eye, ear, nose and throat practice. I assure you that I shall continue using it as nothing yet can fill its place, and am always sure of results.—G. A. Weirick, M.D., Hastings, Neb.

Treatment of Cervical Catarrh.—Under this heading, the St. Louis Medical Era of July, publishes the following editorial of interest: "Very many of the inflammatory attacks of the os and cervix are due to neglect of personal hygiene, and violation of the laws of health. Deranged functions of organs gradually induce morbid conditions in those parts which are the most vulnerable and the most abused. Constipation, deranged nutrition, neurotic vagaries, and irregular blood supply with abdominal and pelvic congestions, constitute a group of pathological conditions which will rarely fail to provoke womb disease. I believe we as physicians are too apt to view diseases in the abstract. A female complains of a leucorrheal discharge. We introduce the speculum and discover a cervical catarrh, and address our attention to that special lesion without sufficient regard to the disordered life which caused it. Abatement and cure of a local disease depend more upon the conduct of the patient than the use of special remedies. By giving a patient rest, restoring normal healthy action to deranged organs, and keeping the cervical and vaginal canal in an aseptic condition, a complicated case becomes a simple case in which a mild topical treatment will complete the cure. The treatment which I find most successful is first to get the general mechanism in good shape, keep the patient quiet, especially her genital organs. Prescribe what she shall eat and drink. Keep her bowels open with mild laxatives. Give her an antiseptic alkaline douche consisting of one part of glycothymoline to two parts of warm water, then apply tinct. of iodine to the os and cervical canal, if the discharge is purulent. A few hours later apply to the os a tampon of cotton wool saturated with one part of glyco-thymoline to two parts of glycerine. In twelve hours this tampon is removed and the above douche is repeated morning and night. Twice a week, as long as the discharge lasts, apply the iodine and follow with the tampon. This treatment usually affects a cure in a short time. Of course, conditions may arise which would require some change in the details of treatment, but as a general rule harsh procedures should be avoided."

"Sheet Anchor."—In neurosine we offer no herbs or drugs of doubtful utility, but we present in permanent and palatable form an elegant and efficient combination of well-known and long-tried remedies, concerning whose virtues in the diseases and conditions indicated there is absolute unanimity of expression among all observers and authors upon the subject.

FORMULA OF NEUROSINE.—Each fluid-drachm represents five grains of the C. P. bromides of potassium, sodium and ammonium: one-eighth grain bromide of zinc; one-sixty-fourth grain of pure extracts belladonna, honbane and cannabis indica; four grains extract lupuli; five minims fluid extract cascara sagrada, with aromatic elixirs.

EPILEPSY.—Since Brown-Sequard formulated his celebrated mixture of the bromides they have everywhere been regarded as the "sheet anchor" in the treatment of epilepsy, and whatever progress has been made has only been in the line of additions to these efficient remedies. Hammond ("Diseases of the Nervous System") says: "The treatment of epilepsy rests solely on experience. Among medical remedies the bromides stand pre-eminent and should be thoroughly tried in every case." He adds: "Herpin, several years ago, called attention to the salts of zinc in the treatment of epilepsy. I have used the lactate, and still more recently, the bromide, with very definitely beneficial results" (pages 714-716). Lauder Brunton says of the bromide of potassium: "It is especially beneficial in epilepsy and by its use the convulsions can almost always be lessened if not entirely stopped" (Therapeutics, etc., p. 531). Allen McLane Hamilton says in the treatment of epilepsy: "No general remedies have been of so much service as the bromides, especially those of sodium, ammonium and potassium, and since their introduction, about twenty years ago, the number of cures have greatly increased and the prognosis improved, as our knowledge, derived from experimental therapeutics has broadened" (Reference Hand-Book, Vol. II, p. 708). The literature upon this subject is so vast that volumes might be filled with quotations from standard authorities only, but our desire is to make the briefest reference to these with a view of calling attention to our neurosine, an elegant preparation of the usual bromides, together with bromides of zinc and the pure and reliable extracts of cannabis indica and belladonna. Since Trousseau announced the great efficacy of belladonna in the "Petit Mal" it has held high rank as a valuable addition to the bromides. Of cannabis indica it is well said, "In morbid states of the system it has been found to cause sleep, allay spasms, compose nervous disquietude and relieve pain. In this respect it resembles opium, but it differs from that narcotic, in not diminishing the appetite, checking the secretions, or constipating the bowels" (U. S. Disp., p. 351).

Cystogen-Lithia Tablets.—This effervescent tablet is of interest to physicians as it affords the means of employing the uric acid solvent and genito-urinary antiseptic properties of cystogen augumented by the alkaline and solvent action of the lithia salt. The value possessed by the salts of lithia as uric acid solvent, diuretic and ant-acid are available in this preparation. It is a most happy combination, displaying all of the desirable effects of both cystogen and lithia. The effervescence brings about a quick solution in water, producing a perfectly tasteless solution. Water that is too cold retards the effervescence. It may therefore be conveniently taken at meal time in a glass of water. In cases where this method of administration is contra-indicated, it may be taken between meals, always dissolved in considerable water. Samples supplied to physicians on request to the Cystogen Chemical Company, St. Louis, Missouri.

The Role of Iron in the Nutritrive Process.—It is an established custom of physicians to administer iron whenever a patient with pale, waxy, or sallow complexion complains of extreme exhaustion, muscular feebleness, easily accelerated pulse, aphasia, anorexia and the several symptoms which constitute the characteristic issues of a qualitative or quantitative reduction of the corpuscular elements of the blood. Such symptoms are unerring indications of anemia, and iron is beyond dispute a cure for that disorder. But while the chief therapeutic property of iron is that of an anti-anemic, the subordinate, or collateral, effects of the drug are manifold, and are worthy of far more consideration than they usually receive. As a hemoglobin-contributor and multiplier of red blood corpuscles, iron will doubtless forever stand supreme, but its utility is by no means restricted to anemic conditions, for one of the chief effects of iron—one quite often lost sight of—is its influence upon nutrition. The primary effect or iron is a stimulation of the blood supply. This results from invigoration of the blood vessels. As a consequence of a more active blood stream, the digestive capacity is increased and the nutritive processes are correspondingly improved. Subsequently, iron increases the amount of hemoglobin contained in the red corpuscles. This imported hemoglobin converts the systemic oxygen into ozone, and thus wise oxidation, upon which nutrition directly depends, is restored to its proper standard. It is impossible to emphasize the fact too strongly that it is necessary to do more than increase the appetite to correct nutritive disturbances. A voracious appetite does not necessarily imply an extensive appropriation of nutriment. On the contrary, it is commonly observed that individuals who eat ravenously suffer, the while, a progressive loss in physical weight and strength, even in the absence of all exertions that might account for such losses. And while it is obviously needful to relieve the existing anorexia in order to arrest a loss in weight, it is likewise essential that the capacity to properly digest food be fully restored before the nutritive processes can proceed in befitting order. The manner in which iron begets an increase in appetite has only recently been perfectly understood. The earlier observers entertained the belief that an increase in appetite resulted from the mechanical effect of iron, and that this mechanical effect never manifested itself unless the drug was administered in some acid form. Later investigators advanced the theory that this mechanical effect could be secured by rendering the drug either strongly acid or alkaline. Recent observations have completely disproved the accuracy of both of those theories by inviting our attention to the indisputable fact that a neutral preparation of iron will relieve anorexia with greater celerity than will either an acid or an alkaline one. From the information gained from these observations, we are impelled to admit that the increase in appetite attending the employment of iron is due solely to the increased oxidation induced by its entrance into the blood stream. Accepting this as being true, we can readily understand the manner in which iron exerts its happy effect upon the nutritive processes. The aforestated facts compel the admission that that preparation of iron which enters most rapidly into the blood stream is the one capable of producing the best results in all disturbances of nutrition. Acid preparations of iron diminish the alkalinity of the blood, thus depressing the distribution of nutriment, and alkaline preparations of the drug offend the mucous lining of the alimentary tract. For these reasons it is consistent with logic to extend preferment to that preparation of iron which is neutral in action. That preparation is the pepto-mangan (Gude). Pepto-Mangan (Gude) is unquestionably the form of iron most closly resembling that which is native to the economy, and the striking affinity for it displayed by the circulating fluid causes us to concede that it possesses desirable attributes not common to any other preparation of the drug. Whence we take it that it is the precise form in which to administer iron when a correction of nutritive deficiences is the end to be achieved. In those condition of weakened digestive power where the function is unable properly to take care of the food supply; when to administer the ordinary forms of iron would be but to increase the digestive disturbance, pepto-mangan (Gude) may be prescribed without apprehension, as the preparation is tolerated by the weakest stomach. Being practically predigested, pepto-mangan is immediately absorbed by the mucous membrane and taken up by the blood without the necessity of the weakened function being called upon to prepare it for assimilation, and therefore the entire system, including the digestive function, is strengthened and reconstructed. As a nutrient tonic in digestive disorders pepto-mangan (Gude) has no equal.